
THE WORLD WAR II ORDNANCE DEPARTMENT'S GOVERNMENT-OWNED CONTRACTOR-OPERATED (GOCO) INDUSTRIAL FACILITIES: HOLSTON ORDNANCE WORKS TRANSCRIPTS OF ORAL HISTORY INTERVIEWS

interviews conducted by
Mark Swanson
of
NEW SOUTH ASSOCIATES

U.S. ARMY MATERIEL COMMAND HISTORIC CONTEXT SERIES
REPORT OF INVESTIGATIONS
NUMBER 9C



GEO-MARINE, INC.



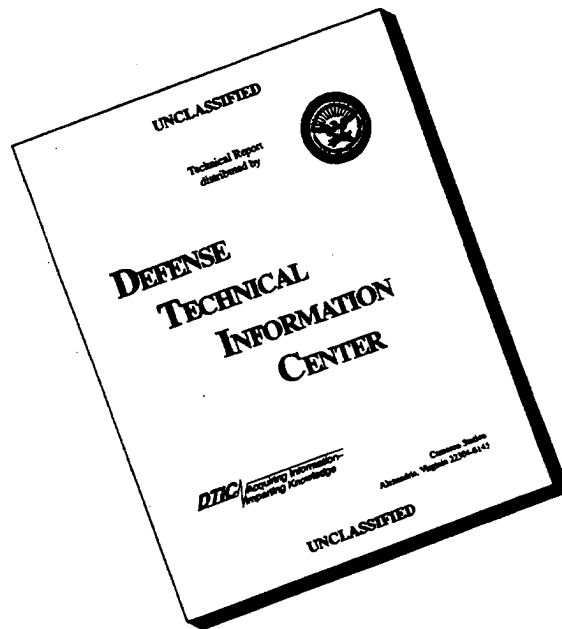
US Army Corps
of Engineers
Fort Worth District

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

19961016 029

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBERS U.S. Army Materiel Command Historic Context Series Report of Investigations No. 9C			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION Geo-Marine, Inc.		6b. OFFICE SYMBOL (if applicable)	7a. NAME OF MONITORING ORGANIZATION US Army Corps of Engineers, Ft. Worth District		
6c. ADDRESS (City, State, and Zip Code) 550 E. 15th Street / Plano, Texas / 75074			7b. ADDRESS (City, State, Zip Code) PO Box 17300 Fort Worth, Texas 76102-0300		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION US Army Corps of Engineers, Fort Worth District		8b. OFFICE SYMBOL (if applicable) CESWF-PL-RC	9. PROCUREMENT INSTRUMENT ID NUMBER DACA63-93-D-0014, Delivery Order No. 89		
8c. ADDRESS (City, State, Zip Code) PO Box 17300 Fort Worth, Texas 76102-0300			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
11. TITLE (Include Security Classification) The World War II Ordnance Department's Government-Owned Contractor-Operated (GOCO) Industrial Facilities: Holston Ordnance Works Transcripts of Oral History Interviews					
12. PERSONAL AUTHOR(S) Mark Swanson					
13a. TYPE OF REPORT Final Report		13b. TIME COVERED FROM Sept. '95 to May '96		14. DATE OF REPORT (Year, Month, Day) May 1996	
15. PAGE COUNT 114					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) Document World War II history of Holston Army Ammunition Plant		
FIELD	GROUP	SUB-GROUP			
05	06				
19. ABSTRACT (Continue on reverse if necessary and identify by block number) This report presents the transcripts of oral history interviews conducted as part of an effort to document the construction and World War II-era operations of the Holston Army Ammunition Plant (HAAP), Kingsport, Tennessee. This project was undertaken as part of a larger Legacy Resource Program demonstration project to assist small installations and to aid in the completion of mitigation efforts set up in a 1993 Programmatic Agreement among the Army Materiel Command, the Advisory Council on Historic Preservation, and Multiple State Historic Preservation Officers concerning a program to cease maintenance, excess, and dispose of particular properties. The major focus of the project at HAAP was to document the impacts that the construction and World War II operation of the facility had on the state and local environments. The project was conducted by New South Associates, under subcontract to Geo-Marine, Inc., during September and October 1995. Duane Peter, Senior Archeologist at Geo-Marine, Inc., served as Principal Investigator. Mark Swanson of New South Associates conducted the oral history interviews.					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL Joseph Murphey			22b. TELEPHONE (Include Area Code) 817-885-6386		22c. OFFICE SYMBOL CESWF-PL-Murphey

**THE WORLD WAR II ORDNANCE DEPARTMENT'S
GOVERNMENT-OWNED CONTRACTOR-OPERATED
(GOCO) INDUSTRIAL FACILITIES:**

**HOLSTON ORDNANCE WORKS
TRANSCRIPTS OF
ORAL HISTORY INTERVIEWS**

interviews conducted by
Mark Swanson
NEW SOUTH ASSOCIATES
Stone Mountain, Georgia
Subcontractor for Geo-Marine, Inc.

Principal Investigator
Duane E. Peter
Geo-Marine, Inc.

under
U.S. ARMY CORPS OF ENGINEERS
Fort Worth District
Contract No. DACA63-93-D-0014

U.S. ARMY MATERIEL COMMAND HISTORIC CONTEXT SERIES
REPORT OF INVESTIGATIONS
NUMBER 9C

Geo-Marine, Inc.
550 East 15th Street
Plano, Texas 75074

May 1996

CONTRACT DATA

This document was prepared under Contract No. DACA63-93-D-0014, Delivery Order No. 89 (GMI project # 1114-089), with the U.S. Army Corps of Engineers, Fort Worth District, P.O. Box 17300, Fort Worth, Texas 76102-0300.

MANAGEMENT SUMMARY

This report contains transcripts of oral history interviews conducted as part of a project to document the World War II-era construction and operations of the Holston Army Ammunition Plant (HAAP), Kingsport Tennessee. The interviews and these transcriptions were conducted under United States Army Corps of Engineers Contract No. DACA63-93-D-0014, Delivery Order No. 89. These interviews, and the project of which they form one component of the research, were undertaken as part of a larger Legacy Resource Program demonstration project to assist small installations and to aid in the completion of mitigation efforts set up in a 1993 Programmatic Agreement among the Army Materiel Command, the Advisory Council on Historic Preservation, and Multiple State Historic Preservation Officers concerning a program to cease maintenance, excess, and dispose of particular properties. The major focus of the project at HAAP was to document the impacts that the facility had on the state and local environments during the World War II period.

All the interviews were conducted by New South Associates, under subcontract to Geo-Marine, Inc., during September and October 1995, and the tapes of these interviews were transcribed by the personnel at Professional Transcription Service, Dallas, Texas. Duane Peter, Senior Archeologist at Geo-Marine, Inc., served as Principal Investigator. The interviews were all conducted by Mark Swanson, of New South Associates, and the five subjects interviewed were Henry Collins, Raleigh Dingus, Raymond Herring, Melvin Johnson, and Harold Stauffer.

Henry Collins first moved to the Kingsport area in 1913. In the late 1930s, he took a job as a chemical engineer with the Tennessee Eastman Corporation (TEC), a subsidiary of the Eastman Kodak Company, based in Rochester, New York. TEC was familiar with the manufacture of acetic acid and acetic anhydride, both essential to the making of the explosive RDX. Collins worked at the TEC pilot plant that was the genesis of today's HAAP, and continued to work for the company during the period they served as the contractor-operator of HAAP, known as the Holston Ordnance Works (HOW) during World War II.

Raleigh Dingus moved to Kingsport after his discharge from the service in 1943 and was hired at HAAP. He worked in the newly-finished Area A as a fireman. Just before the end of the war he was transferred to Area B and made a Captain in the Fire Department.

Raymond B. Herring had lived in Kingsport for 56 years at the time of the interview. He moved to the area in the early 1940s after being offered a job as a chemist by TEC.

Melvin Johnson worked at HOW between 1943 and 1945 as a chemical engineer, his first job after graduating from university. After the end of World War II he transferred to Eastman's main plant in Rochester. He returned to Kingsport when the operations there were resumed in 1949, staying at the facility until 1953.

Harold Stauffer arrived in the Kingsport area in 1938 or 1939 and started working for Fraser-Brace Engineering Company, Inc., New York, which served as the architect-engineer-construction-manager for the construction of the facility. He worked as an automobile and truck mechanic for them. After the plant went into operation he was hired by TEC as a mechanic and was assigned to a shop in Area B of the facility.

The contributions provided by these individuals have been invaluable. The time and effort they took to participate in the project is greatly appreciated.

TABLE OF CONTENTS

MANAGEMENT SUMMARY	iii
INTERVIEW TRANSCRIPTS	
Henry Collins	1
Raleigh Dingus	31
Raymond B. Herring	53
Melvin Johnson	73
Harold Stauffer	95
APPENDIX A	
Release Forms	A-1

HENRY COLLINS
September 26, 1995
Kingsport, Tennessee
Mark T. Swanson, Interviewer

I guess the first question would be, and I've got to go through a list of questions here. I don't have to ask every one but they want me to hit the main points. And any time you want to veer off that and talk about something else, please feel free to do so. How long have you lived in this area, in Kingsport?

Since I was three years old and I'm 82, 79 years.

If you wouldn't mind, what is your birth date?

April 11, 1913.

So you've been here, I guess working with Tennessee Eastman, is that right?

I've been working, when I got out of college I went to work for Tennessee Eastman, the only one I ever worked for.

Why did your family end up moving here?

They moved here from Cartersville, Georgia, in 1913. My father came here, he was a brick mason-contractor, came here to build some office buildings and chemical plant just outside Kingsport, Blue Ridge Corporation, and he worked there a little while and the weather got bad and he had to quit, went back to Alabama.

Did you have any other family up here when you moved here?

Yeah, my family, I was the oldest son and I had a brother and a sister and we all lived here. My brother now lives in Arkansas and my sister lives in Johnson City and I've lived here in Kingsport, except what time I was in college all my life.

When you first started working at, well I guess you started working at Tennessee Eastman and did you ever switch over to work for Holston or was it pretty much difficult to distinguish between one and the other in those days?

Well I was working for Tennessee Eastman and I'd been working for Tennessee Eastman two or three years as a chemical engineer. And they started the, Mr. Stone, Herb Stone, started this project. And it was a Tennessee Eastman project and they built a little old pilot plant out on the river. They got a saw mill boiler from a saw mill in Virginia. They had three little old sheet metal buildings and Mr. Stone had got an agreement with Dr. Bachman, who was head of the Organic Chemistry Department at the University of Michigan and it was his process that we used, the Bachman process. And when they started the pilot plant I was one of the starters that worked in the pilot plant. I just started off as an operator. I was working in the plant as a technical engineer at the time and I moved over with that little group down on the river in those sheet metal buildings.

Was that at (Wexler?) Bend?

(Wexler?) Bend. And I worked there until we had to build another little pilot plant and I was a supervisor of this new little pilot plant out on the side of the mountain called . . .

Horse Creek?

Horse Creek, it was called Horse Creek. And I was the supervisor of Horse Creek and that's where we melted and cast the pellets and prepared them for shipment and did all that stuff. And then when they started, they were in the process of designing the big plant and finally got agreement and the way I understand it the government, we competed with DuPont and Western, wouldn't be Western Cartridge would it? Western Arms? Anyhow, there was three big explosives manufacturers in the United States and we competed with those, DuPont was one of them. And we put in a bid for it, for the job, on the basis of what information we got out of the pilot plant. And we agreed that we could, if they would give us the chemicals, and they gave us the TNT and the nitric acid and the 501, the hexamine and all the chemicals and then we would operate the plant for them, they'd give us all the chemicals. And we bid 83 cents a pound I think it was to do that. And at the end of the first year we were making a million pounds a day for 13 cents a pound. The biggest bargain the government ever got in anything. (Laughter).

Well, you know, I read about that somewhere that they did make a, it was an extremely good production of RDX and composition B here . . .

That's right, that's right, for an extremely low price. They built plants in Canada, one of them caught fire and burned down. They built one in Italy, it caught fire and burned down while we were building this one. But ours succeeded.

Why would you say it was so successful, this particular . . .

What?

Why was it so successful here?

Well one of the secrets to the process was the ability to recover ascetic acid efficiently. And Tennessee Eastman made [inaudible] acetate [inaudible], so we had to have a whole lot of ascetic acid and a whole lot of ascetic anhydride in our plant process to make [inaudible] acetate. And we had great big acid concentration units to recover ascetic acid from the process. And we used ascetic acid in the nitration process, and ascetic anhydride to dehydrate the reaction. And our ability to recover ascetic acid in the process, recover it and not lose any of it, was really the secret where we had the jump on everybody else, cause we had the best ascetic anhydride and the best ascetic acid system known. We had just bought a new ascetic anhydride process from Germany about the time we started.

Okay, I remember, I read about that some where along the way that one of the top leaders at Eastman or Holston or both in those days said at the end of the war that it was kind of ironic that we were able to defeat Germany by using a patent that had been German, that we bought before the war. When did they get that patent, do you remember?

I don't remember the date but it was . . .

Some time in the 30s?

I'd guess '39, '38 or '37 something like that. They were trying to develop it here at the plant and two men went over to Germany and saw that process over there and gave them a bid on it, on getting, on being able to use the patents, and they came back home and stopped the big project they had going, doing it ourselves.

How much you got paid for the work you did, what was your wage?

My wage was just comparable to the, just comparable, not a bit above, what they paid at Tennessee Eastman. It wasn't the highest wage in the country. Tennessee Eastman just paid normal wages for the area, not low or not high, and I think when I left in 1938 I made something like \$125 a week or something like that. I had started out three years before at \$25 a week, was hired in the plant. Qualified chemical engineer and made \$25 a week, that was low. I could make 95 cents an hour somewhere else [inaudible] in Texas, which was almost four times what I was . . . but this was home and I wanted to work at home (laughter) and Mr. Herb Stone, who was the prime mover of this whole project, it was his idea and he was the guy who talked to Dr. Bachman, had a good relationship, he was the guy who went to Europe and he was a prime mover and he was a real smart good man. And when he gave me a job in 1936 he says, "Henry I don't need you," he says "we've let 15 percent of our engineers we've released them in the last two weeks, they let some real good engineers go." And he said, "but I promised J. Fred Johnson," who was the father of the city, J. Fred Johnson asked him to hire me, he said "I promised J. Fred Johnson I'd hire you, but I don't need you. So you go up to the plant to Building 81 to see if you can find a fellow up there named General Bright and tell him that you'll find your own job up there in the plant." Looking for needs, you know, things that need to be done and that's the way I started and I worked 43 years, 40 years, and nobody never did recall that I don't need you (laughter). But it was, I always worked for Mr. Stone, he was the general knocker, and the management was awful good people. Our management was not highly technical although we had a technical operation. The top management was men that was just ordinary men, some of them weren't college graduates. But they'd give you a fair shake.

Talking about Mr. Stone, wasn't he the one that was trying to push that continuous process and the RDX manufacture?

Oh yes, he was the one pushing it. And that's what our process was, continuous process. It was continuous through the manufacture of the RDX, but it got to be batch wise.

By the time you were mixing it with the TNT, right?

That's right.

I kind of figured it had to be that way because otherwise you wouldn't [inaudible].

Well they tried after the war and everything, of making that part continuous, but it didn't succeed. But that part was a nontechnical, just hard work part of it. Melting TNT and putting the RDX in it and making the little pellets and then packaging them. And it required a lot of labor and when we went to start the plant labor was hard to come by in 1938. And they went out in the boondocks, around in the mountains and everywhere, hired old women to come box RDX in the comp B department that had never been in a plant. And ever time they hired the people, the second day they were here at the plant, as a safety precaution we took them up to the safety department and they put one pellet with a blasting cap under it on a piece of half inch boiler plate and fired it and it blew a smooth hole all the way through that boiler plate. Well, the next day, the second day, they wouldn't come back to work. Some of them had never been in a plant, you know, and they didn't want to be around that [inaudible]. The personnel man called me any number of times and he said, "Henry you're scaring them off faster than I can hire them." But with that kind of people we did a fabulous job. We had a fabulous safety record.

That's what I, I read somewhere there were only three fatalities during World War II and none of them were related to explosives.

That's right. Most of them were related to maintenance.

Yeah, I think one fell off a ladder, one was scalded and one died in a car accident, or something like that. That's remarkable considering what happened at other munitions plants.

That's right, that's right. And we had real good attendance record, back when labor was real cheap and we had unusual things happen a time or two, but we were able to correct them.

What were land values like around this area before the plant was put in? Did they go up appreciably when the plant came in or, just land prices in general around Kingsport.

Not appreciably. We were lucky, there was a, one of the main stockholders that owned, was chairman of the board of this stock held firm in New York that, his name was John B. Dennis, he's a wealthy man and he owned a lot of land around here. And we were able to, and he was the father of the city. They owned the railroad when the railroad came in here, his company did. And he controlled the land and I think we bought 5,200 acres of land along the river from Mr. Dennis and I don't know what they paid for it but I don't, I'm pretty sure it was not an inflated price. Back then, land about that time, acreage along the river was about \$200 an acre. But they bought 5,200 acres from Mr. Dennis as I recall.

Wasn't there like a dairy farm here or something?

Oh yeah, a great big farm. Mr. Dennis owned the dairy farm and they imported the cattle from the Jersey Islands and they had a big old bull that they paid \$12,000 for him. They, I took pictures . . . Yeah, for a Jersey bull. And he was a great old big fellow. And Ms. Dennis was the real, I knew her real well, and they knew they were going to sell the land to the ordnance and she had me come down here and take pictures of grass and flowers and animals and she wanted me to take some pictures of that big old bull. And they put two rings in his nose and one fellow got over here holding it and the other fellow over here and another rope around his tail and was holding him and holding his head right down against the floor, and I was trying to take pictures of him. And anyhow (laughter), the land wasn't, back then if you tried to buy a little small plots, the land would be a whole lot higher than that. And this land along the river was about the best land in the country. I don't know that they paid a bit over \$200 an acre, I don't know.

What about the, what was the cost and availability of housing back in World War II?

Well, Kingsport had to build. They started two or three housing projects, built little teeny houses, the government helped pay for them. And that was, those houses were occupied by people right during the start-up of the ordnance plant. And, but housing values didn't go way up. My father bought a lot, we lived down on [inaudible] St., right in the middle of town, and the improvement company had owned all the lots. Well my father bought a lot in 1915 that he built a little house on that we lived in for many years, paid \$1,000 for it. Twenty-five years later, in 1938 or something like that, the Holiness Church was going to build a church right next to that house and my Daddy called me one day and said, "Henry let's buy it so those snake handlers won't move in on us." And we paid \$1,000 at 20 some years later, we paid \$1,000 for a 60 foot front lot right along side the one my Daddy had paid \$1,000 for. Those lots now are about \$2,000 or \$3,000.

What about the availability of food back then during World War II?

As far as I know it was just normal.

What about like entertainment in town, in Kingsport? Was there . . .

Well, we didn't have an awful lot. We later built a civic auditorium and the city always had a lot of churches. There was two main highways came into Kingsport, and out of town along both those highways was great big signs, said you're entering Kingsport, Tennessee, the magic city, the city of churches, homes, schools, and industries. And the city fathers, the firm that Mr. Dennis was the chairman of the board of, owned thousands of acres and they owned the railroad you know, and they had an engineer from Washington, a famous engineer that designed a whole lot of Washington, and Washington had a whole lot of circles in it. That same fellow came to Kingsport for that improvement company and designed Kingsport from a big old mud hole and Kingsport is designed with these circles and things in it, according to that fellow's design.

Wasn't that Nolan?

That's exactly right, his name was Nolan.

I remember reading about that somewhere. There was an architect from Cambridge, Massachusetts, or something.

It could have been, I don't remember his name. But Nolan was the fellow from Washington that laid out the city.

What was the average salary in Kingsport back in those days, do you have any idea?

I don't have any idea. My father was a brick mason, he made about \$1 an hour, and that was considered big pay. People that worked in the plants, like the press, Kingsport Press and cement plant and the Mead Corporation and places like that, they didn't quite make that much in the early days.

What about a, I know they've built a lot of buildings here out of brick, you know concrete and brick . . .

Well we had a brick plant that the city fathers owned. (Laughter)

Okay, I was wondering why they used so much brick and not wood, got wood too. So it was just they got brick locally?

Yeah, we had a brick plant and a cement plant. And the cement plant was owned by (Penn?) Dixie Corporation. But the brick plant was owned by the city fathers and . . . here again the people that owned railroad and city land and everything were, most of the things were really owned by that holding company up in New York. And they arranged it every bit to make money out of it. For several years Kingsport had one great big store and it was called the Big Store. But they didn't have hardly any other little stores, back when the city was five or six thousand people. You got everything, had the funeral home in it, and post office in it, hardware department, everything in it.

Now this was before World War II, right?

Oh yeah, oh yeah, way before World War II.

So what happened during the war, did they just have more, like a proliferation of stores in Kingsport?

Yeah. During the war Kingsport was just like everybody else, it wasn't a boom time, the ordnance plant didn't work that many people. Kingsport had a population of about, I guess of about 24 or 25 thousand at that time. And it didn't have an awful lot more than that after the war.

Unidentified Speaker: Couldn't have been that many people in Kingsport at that time. I'm not, surely there couldn't have been that many people in Kingsport, 24, 25 thousand. When I left here in 1969 there were only 30, closer to 35 or 40 thousand.

Yeah, but it's not much over that right now, Hank.

What was the reaction of most people in this area when they found out the government was going to buy this land and turn it into a munitions plant?

Well it was a big plus, everybody was enthusiastic about it. And we're going to get jobs. (Frasier-Brace?) were the construction engineer . . . people that built the plant and everybody went to (Frasier-Brace?) to get a job. And (Frasier-Brace?) would hire anybody that could hold a hammer and it was a big plus for the community and it, and for people for miles around. We had people come out of the mountains up in Virginia, 40 to 50 miles away, awful lot of people. Even at Eastman now come 35, 40 miles to work at Eastman and a lot of those old mountaineers worked at the ordnance plant.

Was there any animosity between people that lived in town and the newcomers that came in?

Not that I was familiar with. And having been here since I was three years old and the town grew up, if there had been much I'd have known about it.

What about, was there like any construction camps that were set up on the outskirts of Holston?

No, not that I ever knew of.

Most people either the just lived in Kingsport or they just commuted in.

Yeah. A lot of them commuted in, came from Johnson City and (Irvin?) and (Elizabethton?) and . . .

The government didn't have any special construction camp around here?

No, no, no.

While, when Holston was being constructed, what was your job description? What exactly did you do during those . . .

Well, I was supervisor of the pilot plant at that time.

You're talking about (Wexler?) Bend, right?

(Wexler?) Bend and Horse Creek. And I helped some with the design of the new plant and I made about \$125 a week at that time.

Those pilot plants continued on in production, you know, long after the main plant was going.

That's right, that's right.

And they said well we've got it set up to produce the stuff, let's just keep this one operating too.

Well we shut her down when we got to making a million pounds a day. That was real early. At the end of the first month, well not that quick. We had to have about eight or nine lines a going to do that and there were ten lines. And we started, I needed 37 people I believe it was trained to start the comp B department.

And the comp B department was just one small part of the process, but I had 12 men, so we started with the 12. And it took a lot of ingenuity and a lot of people working double time and overtime and, but we grew real fast. And we had all ten lines going I guess by the second year, something like that. And that's when we got the cost way down. And everybody, everybody at the ordnance plant seemed to have a, well the war caused that. See that was right in the middle of the war, and everybody wanted to help the war project and we showed a lot of pictures about what comp B would do in a torpedo head. And you could see torpedo heads that just had TNT in them would just dent one side of the submarine, but with comp B in it it would blow a clean hole through it, every bit as big as the torpedo was. And the thing went to the bottom. And that's what won the war of the Atlantic. Comp B won the war of the Atlantic. And because . . .

I've heard that's true.

. . .the submarines were about to, they were pretty close to our coast over on the Atlantic side.

Well I've heard that's the reason the British were interested in developing RDX in the first place, was that they heard that the Germans were having an [inaudible] like the mid to late 30s, that the Germans were coming up with a new design of submarines that were going to be impervious to TNT and, unless it was a direct hit which was pretty rare, and they needed something more powerful and they came up with RDX which they had known about before but they couldn't put in any kind of use.

Well they made RDX in a sulfuric acid system and they got a yield about a third for a pound of hexamine, they could get about a third as much yield as we got, by Dr. Bachman's process. And the Italians made it even before they did, but they lost their plants, they burned. [inaudible] had a great big plant in Canada that burned to the ground in, the nitric acid area burned it, right when we were building this plant.

And I heard they had one other plant, correct me if I'm wrong, the , there's a plant in Indiana I believe that made RDX as well, but I believe they made it according to the British method and not the Bachman method. So this plant produced more RDX, I think, than any place else.

They made it in a sulfuric acid process and the sulfuric acid eats up the hexamine, decomposes the hexamine partially. And we didn't have sulfuric acid. We dehydrated, sulfuric acid dehydrates the system during its catalysts of the system, by dehydration. We dehydrated the system with ascetic anhydride And ascetic anhydride does not, did not deteriorate the hexamine. But when we started off we had to free nitric acid in the reaction vessel at a pretty high level. But we reduced the free nitric acid in the system and that wasn't according to Dr. Bachman but we did that. And that protected the hexamine, nitric acid would oxidize the hexamine you know, but that's when we got to double the yields. Wasn't anybody got yields like we did.

Was it difficult to train people here to operate the production lines and stuff, or did they have such a small segment of it they just . . . ?

Hard to do but it was part of the job and we started off training them in safety and scared half of them off. They wouldn't come back to work the second or third day. But . . .

What kind of safety regulations did you have during the regular production?

Just like they had at Eastman except a whole lot more stringent regulations. We wouldn't let people bring strike-anywhere matches into the plant. We'd inspect the lockers. I never will forget one time we had a real sweet old fellow, a Mexican named (Orquesa?), who was a chemical engineer. And he was leading the inspections down in the comp B area one time. They found two packages of strike-anywhere matches in his coveralls. (Laughter) He had to go tell the general superintendent about it. And that scared him. And about three months later he was doing an inspection again and they found them one more time in his coveralls and I don't know what they did to him then, but it embarrassed him to death. But anyhow we had all kind of

rules, things you couldn't bring into the plant you know and everybody wore explosive suits and special shoes with, that had wooden pegs in them and gloves and everything. And there was a danger that a lot of people handling TNT, molten TNT, might get aplastic anemia from the fumes off the TNT. And I went to a conference out in St. Louis about that with one of the M.D.s from Kodak and we did everything in the world to try to keep them clean. We made women bathe every day, and a lot of old women from up in the mountains had the idea that if you were menstruating you couldn't bathe while you were menstruating. And some of them had to quit, because they couldn't . . . you had to bathe every day you worked in the lines. And we had a person to stand at the door and squirt dye on you if you still had a trace of . . . it turned purple, turned purple if you had a trace of TNT on you, you know, you turned purple.

I heard about that and I said well how did that work exactly, because I said they would spray you with something that would turn you purple . . .

That's right, fluorescent dye and it would turn you purple if you had any at all on you.

So what happened then, did you just have to go back and bathe all over again?

No, they just wouldn't, we'd terminate them. And needing labor, and needing their experience, but some, we had a lot of nuts. One real good old lady and her husband worked down in the lines, down in my lines, and a fellow came in one day and told me, said Henry that Mr. So and So there and his wife have two fruit jars, quart fruit jars, glass fruit jars, with pellets in them, pretty yellow pellets that look like, shaped like a chocolate kiss, you know, in fruit jars up on their mantelpiece, above their fireplace.

At their home?

At their home. (Laughter) Well.

And that was composition B was it?

Comp B, yeah. So Captain Hitch was the captain of the Army part of the personnel, they stayed down here a whole lot and they had inspectors in the lines and everything, Captain Hitch was a real fine sweet fellow, and he and I went down there to their house, took the man with us, and there sits the stuff. And Captain Hitch said, Henry what do you think you'll have to do with them? I said we've got no choice, we've got to terminate them, because people have got to know that things like that just can't be tolerated. It's hard, and they were real nice old man and his wife, but we had to terminate them.

Unidentified Speaker: Did you get your pellets back?

(Laughter)

You had things like that happen. Had a lot of women, old women, that had never worked in a plant, and a lot of women worked in the nail building, there was about five or six of them in each nail building. And they were always a fussing and a fuming about one another's husbands and about other things, and we had a bevy of personnel problems at that point, because in the first place women weren't used to working in an industrial situation, they'd been at home all their lives and they had to adapt to that you know. And then they had to adapt to their husbands being there and some other old evil eyed woman putting the eye on him. (Laughter) That was quite a problem. And I volunteered and went in the Navy in 1938 or '39 or something, I'd been down here, the plant had run successfully for over a year. I decided I was going to go in the Navy and I finally got them to let me go.

That must have been, you're talking about in the 40s right, during World War II.

Yeah, World War II. And I knew we had too many women on the job, so I had to make up a list of seven hundred women that I had to terminate and I was going to terminate them, take the responsibility for it, before I left and I did. Now that was a rough deal, every one of them wanted to stay, but finally worked it out and I left.

What percentage would you say they had of women to men that worked here at Holston?

Let's see, I'd say it was about 35 to 40 percent, something like that. Thirty-five percent women. I had I think 1,700 people in comp B and I had 700 women, something like that.

Were there more women that worked in the comp B production line than [inaudible]?

Yeah, whole lot more, whole lot more worked in there.

What about in RDX, were there many women that worked in that, or was that mostly men?

There was a few but not an awful lot. That was, they were process operators and we had things like packaging, you know. Just a routine thing that the women could do. They had some trainers I know in the comp B, in the RDX part. Real smart ladies, some of them had been to college, were trainers. But a lot of the people that operated the jeeps, like in the D lines, they were men, most of those.

What about like minorities, were there any . . .

What?

Were there many Blacks or Hispanics that worked here?

There were a few but not many. There were a few.

Where did they work, or did they [inaudible]

Well they just worked like that did at Eastman, just any where. But at that time Kingsport had, the population was 5 percent Black so there wasn't a whole lot of Blacks that applied for work.

I would imagine in the hills out of town [inaudible].

There was no discrimination at all anywhere. I had more people than any other department and I had some Blacks. We didn't discriminate against anybody, except if you took a jar of explosives home. (Laughter)

So back in those days then you're saying they didn't really have segregated facilities, like rest rooms and things like that.

No, no. But we really didn't have many Blacks down at the ordnance plant.

What was, like for you, what would a typical day have been like when you went to work at Holston? Did you have a particular shift or was it, you were on call just about all the time or . . .?

I was on call all the time.

[Inaudible].

This doesn't sound reasonable, but I'm going to tell you. When I came down in the line, when we go the first line going, I would come, I was single, I would come down in the lines a lot of time and stay six or seven days and never leave the lines. I'd go to the change house and sleep on a pile of coveralls piled up, sleep a little while, and I'd eat in the cafeteria, and I'd stay in the lines, because we didn't have enough trainers and we were bringing people in handling molten TNT and comp B, and we had to do the training. And the way I looked at it, if you didn't do the training it was going to blow us all over the ridge. And we had conscientious people. But I didn't have anything else to do, didn't have a family to look after or anything you know. I was just a young squirt and I loved working down here, so I'd just come down in the lines and work. And a typical day, when I started down here, when we started line one, I'd work ten or eleven hours every day, at least ten or eleven hours every day, and I lived up in town and when they built the cottages for the people to, some of the workers, they built cottages up here.

Is that near that (Rotherwood?) Plantation . . . ?

Yeah, [inaudible] adjacent to the ordnance plant here. They built about 30 or 35 little brick houses and they rented them to members of management that needed them. I didn't have a family but they rented them to me and they let my friend and his family live in there as long as they'd let me live with them.

Okay, well that worked out pretty good.

Worked out fine.

The impression I got from what you were saying is that production lines went on 24 hours a day? Twenty-four hours a day. Yeah. Twenty-four hours a day. I thought maybe they just had regular, like shut it down or something, but they . . .

Twenty-four hours a day. Operated it all the time.

Well I bet that was pretty difficult then. How often did they have like mechanical breakdowns and . . . ?

Well quite often because with weak nitric acid in the system you had lines would corrode, valves would stop up and the greatest danger in the plant was in the maintenance department, maintenance area. One fellow had his eyes blown out trying to take a screwdriver and hit it, the back of it with a hammer to unstop a line that was stopped up with RDX. He hit it one hit and . . . But we were always able to meet the production demand quite easily.

Yeah, that's what I heard, I heard that in fact when the plant first got going it was told, very shortly after it started work, that they wanted them to increase production by 100 percent.

That's right.

And they upped that and I think they beat that as well.

That's right.

And I forgot, I think they produced over, when it was really going it produced more than 700 tons a day?

A million pounds a day. When it first started, real early we got to making a million pounds a day and then they upped that about 50 percent.

Do you have any idea where that stuff went after it left here, I assume it had to be [inaudible]?

Well we stored a whole lot in igloos, over here across the river. But it went to places like Picatinny Arsenal, Sunflower Ordnance, places like shell loading plants, there was a shell loading plant up in Virginia, and it went to those places, places where they loaded torpedoes, they all took a lot of it. They wanted it all to start with I think and then I've heard sailors say that they had ever torpedo that had RDX in it stamped separate and they . . .

Oh, okay, so it could be used for special occasions or something. I heard that when they used RDX bombs like in aerial fly overs and hunting for submarines and things that in order to lessen the danger of crash landing when you returned, I think you were suppose to jettison all of your regular TNT bombs, but the RDX was so valuable you had to come back with it unless you dropped them.

Is that right, I never did know that.

And I don't know if that's true or not, but that's what I heard.

That makes sense.

Especially at the beginning of the war it was so valuable they couldn't afford to waste it.

If you hit too hard you could make it explode. If you hit it hard enough to arm it.

Yeah, I think that was what, I think the crews were kind of nervous about that because they had to return with the most dangerous stuff [inaudible], but going back to this right here. I think we've already covered a lot of these questions here so there's no point in doing that one again. What were the conditions of the construction site itself when this was being built?

Flat land, most of it along the river bottom down here. Area A was along the river there next to Eastman. It was flat land and it was good construction land, good construction land.

I heard something about there was a possibility there used to be a World War I munitions plant in that area.

There was. That plant that my father came here to build some office buildings for, called Blue Ridge something was the name of it, it was a ammunition plant and they made TNT in that thing. Mr. Herb Stone was a chemist in it, he was just a young chemist come from West Point. I think he married and left West Point and came down here to work. And he knew where some of the TNT samples were buried along the river when he went to work.

Okay, so that was, because I remember running across something that somebody said that it took them a number of months to clean the area out of like all this old buried TNT that had, that somebody had stockpiled or thrown away right after Armistice Day or something.

Especially along the river.

Right, right along the river, I'm not sure if it was Area A or B, but it must [inaudible].

Area A, Area B didn't have anything down here, it was just farmland. But that Area A is right where that other plant was. I remember when I was a little boy and they were running that plant in 1915, well before the war, 1915 or 16, around in there, they had soldier boys that carried the rifles and they had big ditches dug around that plant out there and they'd walk in those big ditches with their rifles on their shoulder and

I lived down the street just a little ways and I was a little old boy and I'd, my Mother said I'd often stop them and say, hey how many Germans have you killed? (Laughter).

(End of Side One; Begin Side Two)

. . . in that plant. And then one time they had some boxcars loaded with things like TNT in them and it was back in the plant area and they held guns on some Black men and made them go back in there and pull those boxcars back out of the danger. But they had a lot of Black men working in that plant I think because Black people don't absorb chemicals through their skin as much as White people.

Oh really.

That's right. And they thought they could work in the TNT and not get aplastic anemia, although a lot of people got aplastic anemia during World War I, that were handling explosives.

What happened to that plant after the war?

It just rotted down and part of the area is where Area A is, that was the first thing ever rebuilt back on it. Some of the old buildings and one great big brick igloo that had a lot of stuff stored in it was out there until, they had most of the Area A built before they ever tore that thing down. They had built a clubhouse upon Dale St., it was the nicest thing like a clubhouse Kingsport ever had and that ammunition plant had built that thing.

Out of curiosity, why did Eastman decide to move into this area, I heard they moved in about 1920?

Well, at the end of World War I there was a real shortage of acetone which is a solvent. And when they built airplanes in World War I and before World War I the wings were fabric wings coated with dope and that dope was doped in acetone and they needed a lot of acetone and Eastman needed a lot of acetic acid used it as a solvent in their film system. They cast it in their film system and they needed a lot of acetic acid and acetic anhydride. And they came down here and the Kingsport wood reduction plant owned a boundary of lumber and they would put logs in big old metal, big old things bigger than this table, stack logs in them and push them back in a furnace and burn them with limited air in there and do what they call thermal decomposition of the wood and you could collect (pyroligasic?) acid off it and you could redistill the (pyroligasic?) acid and get acetic acid out of it and you could make acetic anhydride and you could get acetone out of it too. So that's why they. . .

And then I heard there was some other thing that they worked up, I guess it was when Eastman went in for that safety film starting in the 30s?

Well that was [inaudible] acetate. That safety film was [inaudible] acetate. The other film had been [inaudible] nitrate.

One was flammable and the other stuff was not.

And [inaudible] nitrate, inflammable and blow the project room up. All projection rooms were lined with lead until we got safety film on the market. Ever now and then the back end of the theater would blow off. (Laughter). And that's why we got into the [inaudible] acetate business. And at that time, when we got into the business, [inaudible] acetate was expensive, but then they decided if they made something like yarn, which is a big bulk chemical thing, great end use thing you know, that they could spend and make cloth out of it, we could make the [inaudible] acetate then for a whole lot less money and reduce the price of the

[inaudible] acetate safety film. So that's why they got into the yarn business, to have a, and they also went into the plastic business for the same reason, to have an outlet for [inaudible] acetate so we could make a whole lot and sell it and that way the film base would be cheaper.

How did, just out of curiosity, how did the military of course was interested in the RDX production and composition . . .

What?

The military really was interested in RDX and composition B, you know at the beginning of World War II, how did they know exactly what direction to go in as far as developing RDX? How did they ever hear about Dr. Bachman in the first place?

Well Dr. Bachman was an old man in 1937 when I first met him. But in 1937, '36 and '37, old Hitler was taking the world and every country in the world had a keen interest in high explosives, how to blow old Hitler back. And every, nearly every country in the world was trying to make, trying to nitrate hexamine to make nitro hexamine which was the, 506 they called it, chemical 506, mix it with TNT and called it comp B. And every one of them, the Australians, British, Italians, the French, every one of them were keenly interested in getting, especially keenly when Hitler was about to get in position to land on England, you know, and get complete control of the Atlantic Ocean. And the primary thing that the comp B did was it drove old Hitler out of the Atlantic Ocean, and that's what they were interested in. And Tennessee Eastman wasn't interested in making explosives, but Herb Stone had worked in that plant early and he was interested in it and he heard about Dr. Bachman and he went up to the University of Michigan and talked to him and Herb Stone was the fuse that drove the plant, got it into Kingsport.

What about, there was a National, I'm probably not going to get the name quite right, but there was something like the National Research Committee or National Defense Research Committee that was set up, I think Roosevelt set it up right after the fall of France I think in 1940. And this . . .

Doctor, the fellow that headed the Manhattan Project was a member of that and he was one of the head knockers for RDX too. General . . .

Oppenheimer?

It wasn't General Hart.

It was Robert Oppenheimer, it wasn't a general but it was close.

(Laughter).

General, I can't think of the general's name, but I've seen his picture with head men up at the University of Chicago on the Manhattan Project that had a hand in the RDX thing. Some kind of super duper security council wasn't it?

It was something like that and I can't remember the exact name of it now but it was like National Defense Research Committee.

NRC.

It was four letters, yeah, the acronym was four letters.

Well the Manhattan Project was . . .

NDRC or something like that? Something along those lines but it was, I think they were the ones that contacted Stone here and then, but somehow they put Stone in with Dr. Bachman or they smoothed the whole thing . . .

And I have heard that too.

. . . and they smoothed the whole transition, I mean they made it possible for them all to get together and ultimately gave them the green light to go ahead and start [inaudible].

I have heard that too. I know for a fact that it was Mr. Stone and Dr. Bachman were the head men that, felt they started it. They knew it had a chance.

What about, most of the people that worked at the plant, where did they come from? I know we've already talked about it briefly, a lot of them came from around here. Did they come, like the supervisory staff did they come from like further away than just local?

An awful lot of the supervisory staff came from Tennessee Eastman .

And they came from all over or just . . . ?

They came from all over, of course the people at Tennessee Eastman come from all over. A lot of them come from Johnson City and Bristol, a lot of them come from (Bludville?) and those places. A lot of them come from up in Virginia. I was always amazed. We would have big snows sometimes, maybe six or seven inches here in Kingsport, but up in the mountains of Virginia it would be 12 or 13 inches. And maybe 35 or 40 percent of the people in my department out there in the plant before it was started in the CE Division came from up in Virginia. And they'd be hundreds of them and you wouldn't miss a one of them from work, they'd manage to pick one another up or hook a horse up to something and get out of there someway.

So it really wasn't much of a problem with absenteeism?

No, not really. No, no, not really. They always thought they might have a department with absenteeism but they were hard pressed to hire enough people to start. I needed 35 or 40 people to start line one and I had 16 I think, or 17 something like that. But they called me one day and said, Henry [inaudible] comp B is on the way down there, I mean RDX is on the way down there.

Well I've heard about with some other different munitions factories during World War II sometimes they would actually import people from other parts of the country and just set up a place for them.

We didn't do that, no. We didn't have any camp or anything like that.

Well that about, we've talked about this somewhat as well, but what was the townspeople's attitude toward the construction workers when they were . . . ?

As far as I know they were just neutral. At the time they were building the thing business was really bad in Kingsport. And business improved. I know when I went off to college in 1932 business was bad in Kingsport. I hadn't had a suit of clothes in three or four years and I was going to go off to college and I went downtown and saw Mr. (Soles?) down there in front of his store and he had a bankrupt sign on it. And he stopped me and said, Henry do you need a, or you going to college? And I said yes sir, . . . do you need a suit of clothes and I said yes but I don't have any money Mr. (Soles?). He said that don't make any difference, you can pay me when you get home. And then I went up to J. Fred Johnson and there was a fellow up there that knew me real well and he said, Henry do you need a suit to go down there to Louisiana, yeah I need a suit, and he took me in there and sold me a British imported linen suit, two pair of trousers

and a vest, for \$11. (Laughter). And that imported linen just got harder and better, in 25 years. The merchants in Kingsport were having a hard time after the banks failed. You know the banks failed in '33?

Maybe even before then I guess, starting in the early 30s I think.

Well Kingsport had a hard time in the early 30s. And Holston plant started, it helped it, oh that helped it a whole lot, it had to, it had to help it a whole lot.

What about the transition from the construction phase to production at Holston?

That worked out just fine. We had a real good relationship with (Frasier-Brace?) who was the prime contractors I think. And never had any trouble with them. And when we went to start the lines, if they had to make some kind of change or something, they would never belly ache about it. We got along real well with them.

What about the other firm that was more like the design firm, Charles T. Main Co.?

They were engineers, engineers. Got along fine, C. T. Main, we got along fine with them. And there was a good relationship between Charles T. Main and the contractors too. They were a competent outfit.

I guess all of them had to work closely with Tennessee Eastman in order to come up with [inaudible] that was an Eastman process.

Most of them worked in one big building, the civic auditorium. And the Army had a contingent in one side of the civic auditorium. I remember one of the head men of the Eastman part of it son-in-law was the guard, was the Sergeant of the Guard in the Army contingent that was there. And the Army contingent really reported to Major Kelly who was an Army man and he stayed in one side of the civic auditorium and Mr. Stone and the Eastman personnel stayed in the other side. Well a lot of the Eastman engineers were over here and these Army boys would get out here and march around and everything like that. And one day this Major Kelly who was drilling the Army people out there said something wrong to Tom (Parram?), he was Mr. Stone's son-in-law, and Tom (Parram?) just decked him (laughter), hit him and knocked him flat as a pancake. Well they, the guards came and got Tom you know and took him off. Well Mr. Stone got him out of it and Mr. Kelly left town that night. But they never had any trouble with, that little bit of stuff was not important.

What about, how did your job fit into the overall production at Holston?

Well I was superintendent of comp B. Comp B was the department where they melted TNT and poured the RDX powder in it. It started right there, in the K Building. And then we put it in the incorporation building and mixed the two together, folded together in a big signal blade mixer. And dropped it through pellet machines, had little holes in them, they would drop on a metal belt who would cool it and then it would cool and crystallize and form a little pellet and then we'd put it in boxes, nail up the boxes and take them to the igloo. That was all my department. That was the biggest department. RDX is a white powder that is mixed with TNT to form comp B. Now they can make RDX different crystal forms, make them a whole lot finer crystals and mix them with, they put more wax in the melt and make some special comp C they call it, it has a different end use. They use comp C in plastic explosives that they use to blow down bridges and things like that.

Or tank traps and that kind of stuff.

Tank traps, you could put a glob of that plastic on a tank track and it would blow the track off.

At Holston was the work here union or non-union?

No, no. No, no. One day there was a lady came to me, I can't think of her name, and she and her husband came from (Elizabethton?) and this lady came to me and asked me one day could she pass out hand bills around in, they both worked in the comp B department, pass out hand bills. I said no, no, don't you bring a hand bill around here. Well they later caught them passing out hand bills and I took the guards down there and arrested them, terminated them, got their check the next day and they came and got it. And they had passed, they had done a lot of things to try and get cells together in buildings to organize a union. But they were just getting started in that and when I got the man and the woman together and Captain Hitch of the Army he went with me, and we went around through all the buildings looking for people that were interested in it you know, and I could see that the cells hadn't really got started. Those two people had just tried to start them. Well that man's brother had organized a union at (Bemburg?) at (Elizabethton?) where they made (Bemburg?) yarn. And he was head of the union over there and that man and his wife just thought they was going to organize the comp B department and the rest of the plant if they could get it going. But we caught it and that's the last we ever heard of it, never any more problems with it.

What about Tennessee Eastman was that union or non-union?

Tennessee Eastman has never had a union but the union has made three or four attempts, conscientious attempts, spent two and a half or three million dollars one time in an attempt to organize Eastman. They thought they could organize the machine shop and the yarn area, which had a lot of women in it, and force the rest of the plant to come into it. They spent money and had people out there passing out hand bills.

Was this before or after the war?

This was before the war. And some after the war, but before the war. And when I went to work out there in '32 it was in '33 or '34, something like that, but they never could get off of home base. There was a few people scattered throughout the plant that would sign their papers, just a few, and some of the people that signed their papers came to me and asked me about it. I said well what did they tell you would happen to your bonus. They'd throw those papers away. (Laughter). Wouldn't even answer the question. (Laughter).

I heard they had problems with unions in other, like government run installations or, during the war, because [inaudible].

Yeah, I think that shell loading plant up in Virginia had trouble with the unions.

I know during the war particularly it was viewed by a lot of elements as being vaguely unpatriotic to be casting around for extra money when the war was on.

Well Eastman has always, it's always been a profitable company. It enjoyed a margin of profit in the photographic industry for years and years, it was unequaled by anything nearly. And they always treated their people well, Mr. Eastman was a personnel man. And they always tried to keep that spirit alive. I think up at Kodak they had a few units get into the shop, but they never did last long. But there's been some unions organize the glass plant right next to Eastman and they had unions down at the Press, which was one of the biggest plants in town. They had unions at Mead Fiber, but Eastman managed to escape.

On the other side of the coin, did they have any problems with, or did people in town, in Kingsport, perceive there was a problem with wartime profiteering by Eastman or by Holston or other ordnance companies that people had heard of?

I don't know. No, well that, when they agreed to pay us 83 cents a pound to do what we did and we did it for ten to 13 cents, I think it got up, I don't know what it is now, but there was never any profiteering.

Eastman never made any money, I know that for a fact that Eastman never made any money out of running this for the government. It's the government's facility and we just do it on a per pound basis by contract. I know one time Eastman was a little bit interested in buying Area A, buying the ascetic anhydride and ascetic acid systems, their still houses, and they never could reach an agreement with the government on a price, so they just enlarged their area at [inaudible].

I had heard something about the reason they had it set up the way they did where you had Area A over there by Eastman's headquarters and Area B all the way over here was one, if you had all the explosives stuff in Area B would be safer, which you wouldn't want that stuff in town but, two, I think that Area A, Eastman, wanted that close to where they were so they could have, because I felt like they had like, what's the proper term, certain kinds of rights to the ascetic anhydride process, they wanted to keep that closer to the vest, closer to [inaudible].

Well Area A is right along side of the acid division at Tennessee Eastman that's what, I think Tennessee Eastman offered them 75 cents on the, you can't quote this I'm not no expert, but I heard somebody say one time Eastman offered them 75 cents on the dollar for Area A but they wanted the whole dollar, so it just sat there.

Well one question here I'm sure was probably true, it says was the work that was done at Holston, was it stressful?

What?

Was it stressful. I said I imagine it probably was.

Was Holston trustful?

No, was the work you had to do at Holston stressful?

Stressful? I don't know, it could have been. It's, well you'll have to admit that handling molten TNT and compared to making paper or cement or something like that it would be a little more stressful. But that was why we had to stress safety. And that's stressful, really. And we had a few people get killed at the facility.

Were people that aware here at Holston of the role they were playing in the war effort?

Oh yeah, oh yeah, yeah they had movies and things and told us all about, showed us pictures of like demonstrate blow that hole in that half inch boiler plate with one pellet. The first or second day they worked here, to do that, you know, that makes you aware that it's dangerous. And that is a stress and they never let up on that. You're not making ice cream. (Laughter).

That's true. Were there any facilities or any different positions at Holston that were delegated mostly to men or others, or mostly for women in the plant? Like in the office versus the assembly line or, you've already mentioned you had a fair number of women that worked in the composition B, more so than they had on the RDX production line.

Yeah, that's right. Well it was, when we could, since labor was so short, when we could reengineer a job enough to put women on it, we put women on it. In the first place a lot of women were available and a lot of the women we hired had never worked a day in a plant. And then I found that some women were, conscientious women could do as much as any man, some couldn't, some weren't physically strong enough, but some could.

What about, was there a big, did it lead to problems in running the plant when you had to use so many people that were not used to factory work? Did it mean you had to train them more?

You had to train them, yeah. You take people that live out on the side of a hill on a farm, have never been in a plant, and they go in there where the fans are blowing, and the lights are turned on and the wheels are turning and the noises are going off and it's a different habitat and some people couldn't adapt to that, some few, and when they blew that pellet up, they decided to stay home the next day, a lot did. But once they stayed, when I had to terminate that great big bunch of women just before I went in the Navy, because we took, we had women to stand and watch those pellets form and if anything went to happen to them they'd jump at it. But it so happened that we got the condition, the thing under control enough that the dern, didn't anything happen to the pellets. Well if didn't anything happen to them, then we had to let the women go. And most of them would cry and beg to keep their job you know, it was the first job they'd ever had and they made just as much money as the men that did the same thing and 95 percent of them wanted to keep their job. I know that for a fact because I talked to every one of them.

Do you have any idea what they did after the war?

Don't have any idea.

Do you suppose most of them went back to farming or to [inaudible]?

Probably did, I don't know. A lot of them wanted to go to work at Eastman, but Eastman didn't have a whole lot, that many jobs for all of them. But they were oriented in industrial work and they would have been good employees if it had . . .

Did the plant provide day care facilities for mothers or was that ever initiated?

No.

Was that ever an issue at the plant or did they . . . ?

Not that I was ever familiar with. It could have been, it could have been though.

Did the community provide any day care facilities?

The churches in the community had day care places. I don't know whether they were overloaded with demands or not, but the church I go had a great big day care thing, it's larger now than it ever was. I don't know that the ordnance plant came in and made any greater demand or not. There was a greater demand for housing though. And that's why they built Cherokee Village. But they never did build many apartment buildings. They've just recently gone to building apartment buildings in Kingsport. I live in one, since you don't have to mow grass and rake leaves. (Laughter).

That's certainly a liability to having your own house. Was there a plant or company newspaper for Holston?

What?

A plant or company newspaper, a newspaper that came out that was just for the plant. I'm not talking about a newspaper in Kingsport, but like a little company . . . ?

Yeah they built, they printed a little, I don't remember how often.

Remember the name of it by chance?

No, I don't remember the name of it. But they printed one up at Tennessee Eastman always did, and they printed a little HOW paper of some kind.

You know how often that came out?

Don't have any idea.

What kind of articles did it have, do you remember? Was it just morale type building stuff or . . . ?

Well, as I recall they tried to put things in there that, about departments that had a real good safety or attendance record and things like that. And they'd talk about, as I recall, they talked about things like we were driving the Germans out of the Atlantic Ocean. I really don't remember.

How often did they have things like blood drives and war bond buying campaigns and things like that? I heard they did stuff like that periodically, but I don't know how often?

I don't remember how much they did. I remember they did stuff like that. But down in the comp B area people had to give blood once a week, testing them to see if they were getting an accumulation of TNT in their blood stream. And we had some few people that didn't like to be, have samples taken out of their arms, so adverse to it that they'd quit. But you couldn't work if you didn't have a blood check.

Did the plant ever get an Army-Navy E Award?

Yeah, oh yeah, yeah. I have a little badge here at home.

What does the little E Award look like, just an E?

It's a little long metal thing that had, I believe it had a flag unfurling on both end of it. It curled up on the end and had an E in the middle of it. A little thing about that broad and about that long that had, you could stick it on your coat.

So when a plant was awarded an Army-Navy E Award, then everybody in the plant got one of these little . . . ?

That's right.

And just out of curiosity, when did you go to, you said you left here and went into the Navy, right? And when was that?

Yeah. That was in 1938.

No, that would be in the 40s wouldn't it?

Unidentified Speaker: That couldn't be right.

Yeah, that's not right is it.

Just roughly.

194 __, when did the war end?

1945.

It would be 1942.

Okay. I know that they got the (Wexler?) Bend and the Horse Creek pilot plants, I guess they got going real early in '42, right after we got into the war.

Well I was the one starting it. And I ran it about a year and I worked down here a year before I went in the Navy.

So it must have been like '43 or '44.

That's right, '43 or '44. Might have been '44.

What would you say would be the big differences between what the plant was like in the early days and then what it was like when you left? What were the biggest changes in the plant [inaudible], let's say the initial start up to the time you left?

Until I left? Wasn't hardly any changes.

So it ran pretty smoothly from the beginning then?

That's right. They spent a million dollars trying to alter line one to where it would be continuous. Even automate the packaging section. And tied all together so it would be continuous. But a lot of that stuff didn't work out very well. So they didn't do it to any more lines. The thing right now is essentially like it was when we started. One great big improvement was made in it. We started it we had I believe six inch (pyroflex?) cooling legs, six inch diameter tubes about 20 feet long, about three of them, about 60 feet long and then a U-tube on it and we'd pump them through those things that had a jacket on it and have cold water running through it and that was how we cooled the reaction. Well they developed stainless steel reactor legs which were a whole lot more efficient and didn't give near as much trouble as the glass legs did. And that was a great improvement.

Yeah, I was taking a tour of one of those lines, I've forgotten now which one it was, but they had some of those Pyrex glass things in there that were just stacked up. I don't think they came from that reactor line, but they were from another part of the line somewhere, and they were like some U-joints, but they said that was the same kind of glass they used in World War II.

When I was working at (Wexler?) Bend at the pilot plant when we first started, we really worked on those reactor legs trying to get them efficient and everything. Worked and changed them, lot of times make up a whole new set and before we got them started, the chemicals through them, Mr. Stone or somebody would come and say, oh don't start that, let's do a different one. And we'd make up entirely different ones. We made some out of aluminum that looked awful good to me, but they didn't last long. Corroded out real bad.

Yeah I guess that's true, you would have a problem with that in those reactor buildings, that acid will eat it up unless it was just right. Was that a problem with . . . ?

The what?

The acid, throughout the lines and stuff, was that . . . ?

Well if, we had all stainless equipment and everything, stainless or glass or something like that. Yeah, [inaudible] nitric acid is extremely corrosive. We had a whole lot of nitric acid.

What was the worst accident that you ever heard of at the plant, that you knew of during the war?

I believe one of the worst ones I ever heard of was down in the burning ground that the safety department ran. Where they cleaned out equipment that had deposits of comp B in it. And they were cleaning some lines out down there and as I recall the lines blew up, or a tank blew up and the lines went into and killed one man and hurt two or three more. That wasn't far from where my little old office was. But that's, we never had an explosion of any kind in the comp B area. We had explosions caused by maintenance problems in the G Buildings, the recrystallizing buildings where they recrystallized the RDX so you could wash every bit of the acid out of it more efficiently. And one fellow got his eyes, as I recall, his eyes blown out.

What about like minor accidents, were there a lot of like minor accidents?

Not that I knew of, no. No, no, we had a good safety record.

How did they, just out of curiosity, you were talking about and I have read somewhere else too, about the problems you have from breathing in TNT fumes?

Well that was a real concern. In World War I, thousands of people got aplastic anemia handling TNT. And there was a doctor, Shriner or something like that, from Rochester came down here and he was a real dermatologist and two or three other things, and he and I went to St. Louis to an international, or national, national conference on toxicology. And there was about 500 or 600 people there representing different ordnance plants, different places that handled TNT, and there was a real concern with people breathing, TNT has a pretty high vapor pressure, you just heat it up a little bit and it will vaporize and get up in your duct work that you pull your air through and form long needles, condense and form long needles of TNT. And those long needles are very sensitive, that's one problem. But the breathing the TNT, the TNT forms a, I don't know what constituent is in it that does it, but forms a stable compound with hemoglobin and it was extremely toxic. And when you got to where you didn't have hardly any hemoglobin left you had aplastic anemia. And that what's that whole thing out there was about. That's why everybody had to change their coveralls ever day and take a bath every night, wear clean underwear and clean clothes and everything and then that's, we made that a, that was a fetish really. The first thing you had to do and the most important thing you had to do.

I remember I was talking to, I can't remember if it was Raleigh Dingus or if I was talking to somebody else I interviewed earlier and they said that one thing that women were required to do was they could not wear any kind of nylon, they had to wear cotton underwear because it was less likely to catch fire, that was one of the, he worked in the firehouse or something and said that was one of the regulations they had.

I don't know about that. I didn't know him, but they wore cotton because one thing I guess it was less expensive. And it's porous, a little more porous, and porosity sort of protects you from something that will get next to your skin.

Anyway going back to the TNT fumes and stuff, did they make people wear gas masks or you just had to worry about the ventilation more?

Well if you had . . .

(End of Side Two; Begin Tape Two)

. . . most and here it is, a lot of that stuff, well they had to replace a lot of that wood and stuff, but a lot of the stuff is just like it was built for seven years. And I wouldn't want to buy anything that old (laughter) to make explosives in it.

Well that's true too, I don't know what they would use it for if somebody private were to buy it, I don't know, they would have to do all kinds of stuff I guess to detoxify the place. It would be difficult to do that. I would think the government would want to hold on to it because they may need to go into production again, I mean you never know.

Unidentified Speaker: There's probably toxic stuff all over the place.

Oh I'm sure, there probably is.

If I was buying it from the government, I'd make them build a brand new one, all new [inaudible] and everything. (Laughter). New process and everything, new everything.

Well if they were doing it now a days they probably would, because I mean now they've got, a lot of the machines in here are pretty labor intensive. They say if you maintain them they'll last forever, but they are high maintenance. Like they've got the steam plant, you've got, I know they've shown me all kinds of machinery over in Area A and they said if we were doing it today we'd put electric motors in. But for back then we had all kinds of . . .

There's a lot in the comp B department though, we drove our agitators with steam, steam things. We hadn't been operating long. We had (Corliss?) governors on those things to control the rate of steam. And thought we had a limited amount of steam going into the thing where the agitator wouldn't go too fast. Well we hadn't been operating very long until one of the agitator's governors hung in the top position and the steam opened wide open on a six inch steam line and that thing, instead of going like this it went like that faster you know. And it threw the comp B, molded comp B in 506 out of, blew the kettle off the thing and threw all the contents all over the room, just like you'd painted it with it. I went down there and I had them make orifices to go in the steam lines to where it couldn't get but a certain amount of steam through the line, I don't care what size the line was. And they might get less than that, but they couldn't get any more than that. And old lady Gunther called me and said, Henry you're going to keep on and you're going to blow that place up down there. And I said can't happen, (Ada?). He said why do you think it can't happen, I said the Lord's on our side. He said I don't want to hear any more of that Lord stuff. (Laughter). That's exactly what he told me. But we never had another kettle get out of control, because every one of them had orifices in the lines. (Laughter). I remember the formula for sizing the orifice, I had to look through a handbook until I found it. V is equal to, well I don't know what it was.

Did you ever hear that much about, from people that were living in Kingsport about this being a dangerous facility to have so close to town or any comments like that?

Well there was, there were fumes came out of the recovery units. And . . .

Talking about the B line, is that it?

No, I'm talking about the . . .

Oh, fumes over here in Area A?

Yeah, in Area, no down here in B lines, where they're trying to recover the nitric acid. And those fumes would react with vapors coming off the river and form real thick clouds and people in the neighborhood around here and way down the road were afraid of the things, the clouds. And they finally completely

revised the system and put in different kind of recovery units. There was a fellow that worked in the printing department or somewhere like that that developed that new system and he wasn't even an engineer. And he had gotten it somewhere.

What about special clothing and things like that, was that required as a safety measure?

Well all the operators down in the lines exposed to explosives had to wear coveralls, white cotton coveralls. And special shoes and socks and underwear. But the other people that weren't exposed to it didn't have to wear them.

What about like safety glasses and things like that?

Yeah, they all wore safety glasses. And they wore little hats, little cloth hats.

They took those, at the end of the day they were washed or something like that?

Yeah, they all had to be washed every day. Had great big piles of clean coveralls in the change houses. Had people stand at the change house door and spray them with that indicator and if they changed purple, had to go back and bathe again. (Laughter).

What about, what was the pay at the plant, do you remember?

It was . . .

I'm sure it varied, but like on an average what would it be, do you have any idea?

I wouldn't know what the average was, it varied a whole lot. Do you know what a bracket is? (Appeasement?) I don't know what . . . A lot of still operators, we had still operators in the heavy concentration end of the plant, in Area A. They made top pay, I think they reached bracket 12, which would, reached bracket 12 back then, which was the top pay in the plant. It was maybe a \$1.80 an hour or something like that, maybe a \$1.90. And people in the comp B averaged about, reached bracket nine, which would be \$1.05 or \$1.10 top. They merit rated them, performance rated them and they paid them on the basis of their performance rating. And the government monitored that. And they insisted that you pay them on a Bell curve, which was the wrong thing to do and I told them that but they wouldn't, didn't care. But I would rate them on a Bell curve. They'd take people and draw that Bell curve you know and you'd allow a certain percent down here real low wages, certain percent over here real high wages, and the middle was the top of this thing and it all, mathematically a Bell curve has a certain shape to it, so many A's and, universities all use them for grades. I always thought that was unfair. But anyhow and the Army monitored it, what you were paying the people, how you were rating them and what you were paying them. Well that was sort of all right you know, and we went along with the monitoring and made the things fit and they knew what to expect.

I remember reading something about that, it was worked up by some Eastman employee after the war, and I think he said that they did have merit pay or something which was what they did at Eastman and they carried that over into Holston when that thing was in operation, but they, thinking about it after the war, said it would have been easier if they just simply had paid a flat rate instead of having merit pay . . .

Well the book work, Eastman put in a system of paying people premium pay that did a premium job, merit pay that did a merit job. That was something like the upper 10 percent. And you could, that was hard to administer. There'd be a lot of good men that, there'd be a man around here that was just average and his merit rating would be just a little bit above somebody else and he would get merit pay, ten or 12 percent more than the other fellow. And there was a lot of unhappiness about that. But everything they did at

Eastman personnel wise on things like that, all the things they did out there was based on what they did at Rochester too and they made us, the management had a fetish, if you can use such a word, of being sure that everybody was paid fairly and not excessively, paid fairly. And they brought that same thing down here, to the salary role and everybody else. I never did hear many people object to being underpaid or overpaid, it just fit in with Eastman and Eastman paid people at least, their policy was to pay people at least as much as comparable pay in the Kingsport area, in other places like the Press and the Mead and the other places, union and non-union.

From what you heard or remember hearing from employees in the area, did most people save, were they able to save money during the war years while they were working at the plant or was it pretty much a . . . ?

I don't have any idea. I'd say a lot of them did. Just to point that out, there was 35 men one time went from Kingsport and 35 from Rochester went to the University of Chicago and stayed two weeks and just studied basic economics, industrial basic economics. And what they had in mind, they wanted these fellows to be a seed group to permeate the company when they went back. What's a good reasonable policies to follow in a fair and equitable, well that's when the Democrats had taken over (laughter) and the industrial world was concerned about it. And unions were somewhat of a threat. But they, we went up there and stayed two weeks and had the best time. And it was a pleasure to go. One of our teachers was this Jewish fellow that was chief economist for President, who was ahead of Kennedy?

Before Kennedy . . . Eisenhower? Oh are you thinking about Hoover?

The President, no it was after Hoover. Anyhow we went through this course and they summarized it all and wrote it up and wanted us to go back and train all the foremen and supervisors in this philosophy, this industrial economic philosophy. And the last class we had the teacher said, he said, I've studied economics all my life, advised two presidents in economics, but he said the economy in your area is just not explainable. I'd like some of you fellows from Tennessee to explain it to me. And he said one of the most productive counties in the United States, economically, is Greene County, Tennessee, and there's only one county in some state, mid-west state, that's got a little bit higher than theirs, but they stay high like that. And he said they've got the highest productivity numbers of any county in the United States. And they said 35 miles away over here is a county of people that's got the lowest productivity in the United States, lower than any county in the United States. He said it just doesn't make sense that everybody over there didn't move 35 miles over here and make a living. Over there was where the [inaudible] lived, in that county over there, what's the name of it. Well anyhow it's the county that the [inaudible] lived in, over where (Sneegel?), Tennessee is. And there is a bunch of people over there that's just an independent as hell and they don't do anything but make corn liquor and they're just as independent as they can be, and some of them are dark skinned and light blue eyed. Portuguese, the Portuguese came, they came with the Portuguese. But anyhow he said now you fellows from Tennessee explain that, both those counties are in Tennessee. They wouldn't say anything and I got up, I've always been sort of big mouthed, I got up and said, well I explain it one way. These people over here in Greene County are satisfied. And these people over here in Hancock County are satisfied. They're satisfied but for different reasons, but they're satisfied. (Laughter). And that is the reason. Everything isn't driven by the economy. Just about everything is but everything isn't.

As far as newcomers coming into the community during World War II and stuff, did the plant make any special provisions for making sure the newcomers and the townspeople got along well or did they just not worry about it?

I don't, I wasn't aware that there was any difficulty between the people that lived here and the people that came in here. That there was rivalry or anything like that.

Did people here gamble or was gambling legal?

Gambling is not legal in the state of Tennessee. (Laughter)

Unidentified Speaker: Never has been.

Never has been.

Unidentified Speaker: That wasn't the question. (Laughter)

Well there was . . . There was a few, old men mostly, that drank a lot that gambled. Most of them died alcoholics. And they weren't, the people that came in weren't any worse about that than . . .

Was there any problem, was there ever perceived to be a problem with epidemics as the result of people moving into town?

No, not that I was familiar with. We had sieges of influenza and things like that just like everybody else did, but we had built a community hospital, Holston Valley Community Hospital. And had brought several, a whole lot of new doctors into town just about that time. And those doctors all got rich. And the hospital has grown, it's a great big thing now, fine hospital, and it was built by the people, donations from the people built the hospital. They got a (Hale-Burton?) thing to start it with, J. Fred Johnson got this (Hale-Burton?) thing and then the rest of the money came from people. Now out at Eastman when they started it, they make it plain that they expected members of management to give a certain amount and they gave that amount. And like they, Kingsport has always reached the goal, maybe last year they didn't quite reach it, but the goal for the Community Chest drive, it's going to start here pretty soon. And as far as I know we didn't have any trouble with the ordinance people giving to the Community Chest one way or the other than we had at the other plants. Of course we, Eastman largely, maybe I better not say that. But an awful lot of the Community Chest money came out of Eastman.

How would you say that Holston changed the Kingsport area as a result of it's being here, and the construction and the years of operation?

Well it brought a lot of money in here and it made a big difference in the economy, made a big difference in the economy. The banks had all closed, all of them but one, not too many years before that. We got over that and nearly everybody prospered.

Was there a curfew in town?

What?

Was there a curfew?

There was in the early days, but there wasn't during the war. At nine o'clock the cement plant would blow the whistle, steam whistle, you could hear it all over town, and children were suppose to be home. (Laughter). But they haven't blown that whistle in a long time.

By the end of the war they weren't doing much of that?

No, that's right.

What about labor shortages, were there any like major labor shortages during the war? I guess that's one reason why you used women?

[Inaudible]. Eastman had a hard time getting enough people to start the plant. And finally we got enough.

Primarily by training them yourself?

That's right.

Do you ever remember hearing any discussions in the community about like who the plant was hiring or did they, was there any discussion in the community about well the plant is hiring these people for that position, or was there, was it pretty equitable, the hiring practices at Holston?

I never did hear any objections to Eastman's hiring practices. They used exactly the same rules here that they had at TEC.

Did the fact that you had the Holston plant here, did that make the war effort seem more real, or more immediate to people that lived here?

Oh yeah, yeah. The people down here at the ordnance plant were very aware of the fact that they were contributing to the war effort. They were very conscious of that. Talked about it among themselves, a lot of them had children that were off in the service you know.

What about race relations at the plant? How were people encouraged to get along or was there a problem that had to be addressed?

Didn't have any problems that I knew about and I would have known if they'd had any. If a Black man wanted a job we had one for him. Population right now is 5 percent Black, one out of 20.

Were there any like laws or rules that prohibited discrimination back in those days or did they exhort people not to do that sort of thing by using posters and . . . ?

There wasn't any that I knew of. There might have been, but I didn't know about it.

Reflecting back on your wartime employment, have your feelings regarding your war job changed any since the war years?

No. I was a young man during those years, growing in my profession and then I went off in the service and that stopped that. I made more money in a week working here than I made in a month in, as an Ensign in the Navy. But I accepted that to start with, that's part of it.

Well the final question here, I might as well ask this as well, it says what kind of effect does the plant presently have on the area? And the second part of it is do you think it should be permanently closed? Do you think the plant should be permanently closed or should remain open?

No. No, I don't have any reason at all to think that, that the plant should be permanently closed. It turned out it was a very successful operation and has been since day one. And I don't see any reason why if the government wanted to build another ordnance plant, it shouldn't be just like this one was at the time, be successful. And there was never anything in the way of pollution or anything like that that upset the people in the area. And pollution was a problem.

Yeah, from what I read I imagine it was. I've read about it. In fact, there was one area they had to clear out and they did it by, I've forgotten now what the circumstances were, there was like some kind of pool or pit of something that they found, it may have been that they found as a result of uncovering what was left of that World War I supply. They washed it all out by digging a ditch from the river to that site and washing it back into the river to clear it out of that site, but I think that at that time it was standard.

There was a lot of pollution went to the atmosphere in the way of nitric acid fumes. And when the humidity would be real high and the vapors off the river would carry them up into the atmosphere. And I'm, there was some people that objected in the immediate area you know about the atmospheric pollution. And then there was some pollution that went in the river, with a lot of nitrates, soluble nitrates, getting into the river. And they dammed some of it up out here somewhere and I don't know if they still have those places dammed up or not. But the river got a lot, the ph got out of balance I guess it was, the river got a lot of growth, vegetation in the bed of the river. And then you'd get an inversion, the bottom of that vegetation would start rotting, not getting enough oxygen down there to it you know, it would rot and the thing would just turn over and the rotten side would be up then. Well they had some of that and they attributed some of that to the ordnance plant in certain locations in the river.

At the time this plant was here, were all of these TVA dams in place?

Yeah.

So Fort Patrick Henry up the river here, that was there then?

Yeah.

Unidentified Speaker: Is there any relationship now between Eastman and this place?

I think there still is, I think it's decreasing bit by bit and I've heard that there's a possibility it might . . .

We operate it, Eastman operates it at practically no profit, almost just what they put in it. Well now I'm no official at that point, I don't know whether that's a fact or not.

I think you may be right on that because there was something, some mention that I've read about that said that, they were talking about what the government was offering them to run this plant, and I think they decided to go with a cheaper option, in other words a set up so that Eastman would not make as much money as they could have because they said well we base most of our business on film and selling film and the public's good will towards us for doing that, and if we were to be even perceived as being a war profiteering company, even if it's not true, but if it were to look bad on a contract bottom line, then it would affect our sales after the war and that's what we're going to have to live on after the war.

That's right, they've been real sensitive about that whole thing since day one.

I just thought if you wouldn't mind if you could remember something about Mr. Johnson.

Melvin Johnson.

The guy that pretty much was the city father I guess of Kingsport.

What?

Wasn't he like the city father of Kingsport or have I got . . . ?

J. Fred Johnson? Oh he was the father of Kingsport.

Unidentified Speaker: Now was it him or Mr. Stone. You've characterized them as both as being fathers.

J. Fred Johnson was the father of Kingsport. Herb Stone was the head man of Tennessee Eastman, that made it go.

I think [inaudible] was like the general works manager [inaudible].

For he made this thing go. Mr. J. Fred Johnson, who is a different man, who worked for the Kingsport Utilities Corporation, which was a stock owned out of New York that owned the railroad and all the land and built the railroad and . . . J. Fred Johnson, he was the father of the city. He would bring fellows like George Eastman, before Eastman ever bought the Kingsport Wood Reduction Plant out here in 1922, he'd bring people like Mr. Eastman to school. I was in the fourth grade down at Jackson school, he brought Mr. Eastman down there and Miss Mabel Dawkins would have classes to come up and sing "Jesus Loves Me This I Know" and quote bible verses and things. And he brought Mr. Borden, the fellow that owned Borden Mills. He brought the people up there that owned the Press, the Halston Mills and he'd tell them, I've actually heard him tell them when I'd be standing in the front of the room, now your employees, he told Mr. Borden this, you come here to Kingsport and build your cotton mill, who had a bad reputation to start with, we'll give you the land to put your buildings on, give you special rate on taxes and Mr. Borden built Borden Mills on that basis. And he'd say your employees will be the parents of these children and you can see what kind of children these children are. And he said you won't ever have any union problems and they never did. So that very point, they were fundamental Christian people, most of them. But even if they weren't Christian they were still fundamental. (Laughter). And it's just worked out that way. And Mr. Borden and Mr. Eastman and all these fellows from New York and other places would come in here and look and we had a great big fine river, had a railroad, had the brickyard, the cement plant, the Mead Corporation, the Kingsport Press, at one time was the largest book binding press in the world, Kingsport Press. And we had the TVA electricity. But everything, good people, what would you want other than Kingsport. And J. Fred Johnson promoted that, and he was a good man. Tell you what kind of a man he was. When I was in college . . . am I wasting your time?

No, no, go ahead, that's fine.

When I was in college, when I was a junior, a senior in college, J. Fred Johnson sent me a check for \$8 and wrote me a little note in the letter and said, Henry I want you to come to New Orleans on a certain date. Said I called the bus company and you can get a round trip ticket to New Orleans from Baton Rouge for \$8. So on that day I went down there and went to New Orleans, met him at that biggest hotel down there, I don't know what the name of it was, and he and his wife took me out to dinner and then we went to (Flem Dobbins?) wedding. You know (Flem Dobbins?) owned the (Dobbins-Taylor?) store and he was marrying a lady down there in New Orleans who was a very prosperous real estate lady. Went to his wedding and went to the reception after the wedding and J. Fred Johnson saw Herb Stone at the reception. And he said, come over here Herb I want to talk to you. And Herb went over there and he said, Herb this is Henry Collins from Kingsport, do you know him. And he said no, but he'd been on the scout council, merit badge council, and two or three different times he'd given me merit badges. But he didn't know me. And J. Fred said he's going to graduate from school up here in Chemical Engineering and said we want him to come back to Kingsport don't we. Well I hadn't had any offers of a job, I was a junior, didn't know if I'd ever get an offer for a job. But he said we want him to come back to Kingsport don't we. And Herb said, well I guess so, and that was the last of it. And when I graduated I was offered a job in Baytown, Texas, roughnecking on a oil rig and I came home here to see what Mr. Stone would give me and I went two months and he hadn't called me you know. Finally I went out there and he said, Henry I'll give you a job but I don't have a job,

I don't need you. But he said I promised J. Fred Johnson I'd give you a job and I'll give you a job. And that's the basis he gave me my job. (Laughter).

Unidentified Speaker: You mentioned you might want to make a copy of his card, his I.D. card.

Yeah, I do want to make that.

I recommend Kingsport. (Laughter).

Well I tell you what, I think that will pretty much conclude all the . . . that's all the questions here that I want.

Okay, thank you.

(End of Interview)

RALEIGH DINGUS
September 23, 1995
Kingsport, Tennessee
Mark T. Swanson, Interviewer

I'll go ahead and ask you the first question here, how long have you lived in this area?

You mean here in this particular section here?

Just in Kingsport?

In Kingsport, well 1943.

And where did you come from?

I came from Owen, Virginia, Scott County, Virginia.

Where were you living when you heard the plant was going to be built? When did you first hear about the plant?

Well, I'd say I first heard about it in, I was in the service and I was discharged and I know they were building the plant, Area B especially, Area A was pretty well completed. See, there was Area A and Area B, there was two areas.

So, Area A was pretty much done and Area B was . . .

Still under construction. But, I didn't start work there for the plant, until I think it was 1943.

So, you moved here in 1943 then?

Yes I did. Of course, I didn't live here, I had to find a place to live, there wasn't any houses hardly, apartments or anything.

Yeah, I heard that people were renting out porches and extra beds in the house and all kinds of stuff.

That's right. My wife was teaching school and she came over here, I think I lived in a staff area, staff houses a while. I think that was in, it was after the war. They had several staff houses where people lived and of course, they've sold all of those out now and everything.

How much were you getting paid when you first started working here?

Best of my knowledge, 70 cents an hour. That doesn't seem like much, but in that day, it wasn't so bad.

Yeah, that's probably true, especially coming after the Depression.

Yes.

Seemed like it was pretty good money. What were land values before the plant was constructed?

Land value?

I guess, they mean here just the general property, you know in the Kingsport area?

You mean of the plant?

I assume they mean just land values in the area?

Like here, well of course, it was much less than it would be now of course. When I built this house in 1960, the land value, well, it cost me about \$25,000 to build it at that time. And most of the land value in other places were down accordingly, you know. So was the type of house and so on and so forth. Of course, the land value now is much, much more.

What did you do before you moved here, when you were still living in Virginia?

In Virginia, well, I worked in a store a while, I run, it was more or less a country store. And then I went in the service in 1942, early 1942 and I left hurt. I was in the 79th Infantry Division and I was in the hospital, so they went overseas and left me and I was sent home in a little while and then I had trouble with my ears and they just discharged me. But, I found out later that the 79th Infantry Division was practically all demolished [inaudible]. I was married at the time, when I had to go in the service. I lived in Dungannon at that time, Dungannon, Virginia and my wife was teaching school there. And then, I left and when I came back, she was still teaching over in Virginia and then moved, she came over to Kingsport and she taught [inaudible]. She's always taught in high school, she's taught 39 years in all, ten in Virginia and 29 in Tennessee.

How much money did you make at the job you had in the country store before you moved here?

I was making about \$25 a week, the best I remember.

So, this job was considerably better than that?

Oh yes, a whole lot better.

So, did you move to Kingsport area because of the plant?

Well yes, I came over to work on account of the plant yes, I figured I could find a job here.

At that time, did you have any friends or relatives in the Kingsport area?

Well, there was some people I knew, yes. I don't recall how many, but I did know some people, of course, I had relatives in Kingsport.

You did have relatives?

Yeah.

Did you move here with them or did you move here on your own?

No, I moved here on my own. I came over here to work and I had to try to find a place to live and the first place that I found, I found it and I knew I could stay with them a while and then I had to move there down to another place where they was keeping people that were working and so on. Because I couldn't find a place to live and my wife was over in Virginia and then when she got out, she came over to Kingsport and we still had to live in a little apartment, very small down on Ravine Street, that's all we could find. When I first started my work at the plant, I was at Area A and I worked there about two years and then I was transferred

to B. But, we didn't have a place to live, except in a little apartment. I know I went over and talked to the personnel manager, which was Mr. Tate and he asked me how many was in my family and I said just two and he said, well we have people that needs a house more than you do, because they had children, you know. So, that was the situation at that time. Mr. Sam Barber, he was over our plant where I was working and I talked to him and this went on a few days or something, I told him I'd like to have a place to live in one of the staff houses. Later, he said, well would you want one and I said yes, I'd like to have one and he said, I'll get you one. He said, we need people like you to be close by, I was in the Fire Department and so he got me a house, house number 16, I believe it was, no number 20 and I lived there 15 years. And that's when the commanding officer called us in, all the people that lived over there, there was quite a few of us that lived there. The commanding officer lived there and several other people that worked for the plant, and the commanding officer called us in and said they was going to sell that property, we better find us a place to live. Of course, some people bought some of them, but I just had a two bedroom home and that was all I had of course, a small house. So, I decided I'd try to head out and find a place, so I came out here in Colonial Heights and there wasn't anything in Colonial Heights, practically anything at all. But the man living next door and he owned this lot I have and I was talking to him and I bought the lot and had the house built, that was 1960 when I moved here.

Can you tell me what it was like when you first moved here as far as I guess, cost and availability of housing? It sounds like it was pretty tight?

Well, it was. Of course, it didn't cost near as much as it would be now.

How much would it have cost for a house?

A house like this?

Let's say a typical house back during World War II, because this looks considerably nicer, I would imagine than what would be typical.

Well, I'd say houses were around \$20,000. I mean, a house that was fit to live in. But, I know it cost me a little over \$24,000 to build this house, I had it built.

Back in World War II, would it have been less than that?

Yes, it would have been less than that.

What about food, was food expensive, easy to come by, I know they had rationing during World War II?

Well, yeah they did mostly, you can get those, well when I moved here of course, up until I moved into one of the staff houses, of course, they still had grocery stores and things down in Kingsport, there wasn't anything out here. But the food of course, cost much less than it does now, much less. I remember when I worked in the store, I remember sugar at five cents a pound and meat like, the side of meat like five cents a pound. And I can remember those prices on that. And pink salmon to the best of knowledge was about 15 cents a can and Maxwell House Coffee, I believe was 20 cents a pound, that's before I came over here now and I left and went to the service. Most prices back then, if you got \$1, it would go a long ways. \$1 would buy a lot of things, now of course, it wouldn't anything. Bread was about ten cents a loaf.

What about entertainment, how much did that cost and what kind of entertainment was there back in those days?

After I came over here to Kingsport?

Ah-huh.

Well, of course they had shows and there wasn't a lot of entertainment.

You're talking about movie shows, right?

What?

Movie shows?

Yeah, they had movies, yes they had movies downtown. But, entertainment wasn't too much. Of course, later on they had dancing, I know I went square dancing, my wife and I, and they was teaching that. Then we'd go to other dances, they did have that. That was about the only amusement they had, there wasn't too much amusement here.

Now you mentioned salary all ready, that you got . . .

I started out at 70 cents an hour.

What did you end up with at the plant? What was the salary at the end of your stay at the plant? In other words, did salaries go up?

Well, yeah, salaries went up, but to the best of my knowledge, of course I retired in 1977. To the best of my knowledge, I was making \$1,500 a month, I think.

You mean over at Holston, which is now Holston Army Ammunition Plant?

That's right.

What was the reaction of most people in the area when they learned that the government was going to buy up this property? Of course, you weren't here when they did that, but what did you hear was the reaction?

Well, you mean buying property of the plant?

Yeah.

Well, I didn't hear too much about it. I know it was a dairy farm at that time.

Yeah, I heard something about that.

Yeah, it was a dairy farm.

Do you remember the owners of the dairy farm?

No, I did at that time, let's see, I can't recall it, I heard, but it was a dairy farm and I believe the plant consisted of about 6,000 acres.

I think that's right. I know they had Ratherwood Plantation, which they don't have now. But, back in those days, it was part of the whole operation.

That's right. Once they had people, they had some people living in homes that worked and eventually their homes were taken. I think it was about 6,000 acres to the best of my knowledge.

I guess this question wouldn't apply, because you didn't own any of the land that was going to be purchased by the plant, because you weren't here at the time.

No, I didn't own any of it.

Did land prices in this area go up or did they fall as a result of the government acquiring that property?

Well, I'd say they went up, because I don't know what the government paid for it, but I'd say they got a good price for it. I could think of the name of the people that owned it, but somehow I can't.

Yeah, I can get that from somewhere else then. As far as you know, did most of the people that lost their land to the government, were they paid enough for the land?

Well, I wouldn't know, but I imagine they were. Usually, things like that, if people take something, they actually pay more than it's worth, you know, in most cases.

What exactly did you do when you worked at the plant, what was your position?

Well, when I first started out, I was in the Fire Department and I was sent to Area A, at that time, my first working and I worked there, well practically, I worked there until the plant closed. They closed down at one time and I was sent down to what they call Area B, well that's what it's called Area A and Area B. And I was promoted to Captain in the Fire Department.

This would have been in the 1950s?

No, it was earlier than that. When the plant closed, it was late '44, wasn't it.

Yeah, I think it effectively closed at the end of '45 and then it opened back up in '49.

Yeah, it opened back up. Of course, when I was sent down there, I worked for the Civil Service and I worked there, well the plant was actually partly closed at that time. Well, it was closed, except the administration building and the shop area, that was all that was going on. They had all the buildings and everything, but it was just, well I used to go all over the place and across the river, where they stored the ammunition and everything like that. But, it went on like that a lot in 1952, March 10th, I believe it was, I changed over to Eastman. Eastman was running the plant and they still run it when they changed us over, it was about, I believe there was 28 of us that went to work with Eastman down at Area B. And well, I worked there until I retired.

What was a typical day like when you worked at Holston Ordnance Works? When did you start work and what kind of shift did you have?

Well, when I first started work, worked shift work and it was on, worked well, three shifts you know, three eight hour shifts.

Somebody was there all the time?

Oh yeah, someone was there all the time. And then later on it was changed and we worked a 24 hour shift and we stayed, we'd go to work at 8:00 and stayed there until 12:00 and then we had a place to sleep of course. And then if anything happened, we got up. Of course, when I went to B, is when I was promoted, in charge of the shift. I had a special room, well the building's still there yet today. I ain't been in it for a long time. But if anything happened, why of course, they had an alarm in my room and the men was sleeping in another bedroom and I just turned on that alarm and here they'd come out of there and knew

something's up. And a lot of times, we had spills, and now and then we had a fire. I had more spills and sprinkler systems going off than anything else. But, we had to get up and do that and it was over with, go back to bed. I'd get up at 8:00 and another shift come in and took over.

What kind of conditions did they have at the plant during 1943, when you first started work there? Was it still pretty chaotic from construction?

It was fully constructed at that time down at the Area B, because a lot of it was, they were still working and all like that. I know I was over here before I even started work and I was down at Area B and they were still, that was in the early part of '43, and they were still building the plant, [inaudible] to build the houses, not the houses, but the plant. And of course, they was trying to get it done as quick as they could, but, they got it completed. It's changed around later on, where you entered the plant and all like that.

Did most workers live in the town, live in Kingsport or did they live actually at Area B?

You mean the people working?

Yeah.

They was living everywhere. [Inaudible] well they was from various places. I know when I lived in the staff area, a lot of the places I don't recall where they were from, but a lot of them were out of other states. And I know some when they left, I think some of them went down in Texas to work. See, they had a plant there, you know.

Yeah, but when they actually were working in this area here, did most of them try to live in Kingsport or were a lot of them put up in Area B?

Well, they didn't live in Kingsport, no. Some were in Johnson City and some out of Scott County, Virginia, and places like that.

Oh, just commute everyday?

Yeah. Well, there wasn't enough people here, I think they had about, oh under construction, I think there was several thousand. I think when the plant was in complete, everything going, I think 7,000 workers, to the best of my knowledge.

I think you're right, that was about the peak, as an average I think it was more like about 5,000. But, at peak construction, they had 7,000 plus workers, and that's not including construction workers.

I know at that time, when they got the plant in operation, why you couldn't take your car or anything like that down in the plant. Well, they had a cafeteria not far from where the administration is actually now, down below. And you'd go through there and that's where you'd enter and they had buses, long buses, you'd ride back to back you know, taking you into the plant.

So you left your cars there by the front gate?

Yeah, they had parking lots. Later on, they finally got some of the places they could park inside the plant in certain parking areas. And of course, in the administration building, mostly where they was making the explosives, you couldn't smoke or anything. They had a little place where people could go smoke on their time off. Of course, where I was, in the building I was in, the building's still there yet today, now we could smoke in that building. Of course, I didn't smoke, but people could.

In Area B, did they have anything like a work camp there, set up for temporary housing?

You mean to start with?

Yeah, to start with, like either a trailer park or, I heard something about they had some temporary housing set up in the ballfield out there in Area B.

Well, right in the plant, they didn't have a place for people to live. But, there were people that lived on that farm. Of course, the government had taken it at that time, but some people did live there. And like when I was working for Civil Service, people lived along the highway and of course, they finally didn't take all that and they had to move. But, most other people working, well, lived just not inside the plant, well just various places. A lot of time, the construction plant [inaudible] building the plant, I can't think of it now.

Out of curiosity, how did most people get along that worked at the plant?

Well, to the best of my knowledge, they got along very well. I think they did, considering everything.

And most of the ones that worked there at the plant, came from, what would you say about a 40 mile radius?

I'd say so.

Were there any minorities that worked at the plant at that time?

Minorities?

Yeah, like Blacks or for that matter, Mexicans?

I don't remember any Mexicans. To the best of my knowledge, we did have some Blacks, but there was not any Mexicans to my knowledge.

What kind of jobs did most Blacks have that worked at the plant?

Well, they just worked at construction, I'd say. Now, after the plant went into operation, they had some Blacks that worked in the operation. I know we had, in our building I know we had a mail carrier. He carried mail over the plant, you know and he was Black. Mr. Coward, I remember his last name, he was a very nice person. I used to kid him a lot, [inaudible] I think he went to California and I'd ask him [inaudible] he used to bring little things up to the bank. One day I saw him dragging a sack in there and I said, oh you got a sack full of money and he gave me hell of course, he carried other things to the bank. I'd say oh you got plenty of money, I'd like to borrow a little and of course, I was talking with him. He picked up the mail and there was some other Blacks that worked in the plant, in the explosive department.

What was the town like while this plant was in operation and under construction? What was Kingsport like, was it pretty much a boom town?

Well, it was pretty much a boom town, yes it was. Places like this out here, wasn't here. But it was a boom town, like downtown. But of course, they've all closed down now, but they had everything going on. So, it was kind of like I say, a boom town.

What did people do with their free time on weekends or weekday evenings?

Well, most of them spent at home, back to their home, you know. Because there wasn't too many places to live, if you had a place to live during the war and right after, it was practically impossible to get one, everything was full. Of course, it's enlarged quite a bit after that, of course now.

What was the attitude of people in town towards the construction, especially construction workers?

Well, the best I remember, the attitude was all right. I think they was in one sense of the word, glad the plant was going up, in order for people to have a job this long. If there was any people that didn't like it, I don't recall anyone. Of course, where they bought the land from, I don't know about it, what they thought about it, I guess they got a good price for it, I don't know, at that time.

Did any of the people that came here to work on the construction of the plant, did they take work away from the local people?

No, I don't think so. They was trying to get everyone they could get. It was hard to find people.

How did Kingsport change during the construction period, like with housing, did crime become a problem, that sort of thing?

Well, housing did decline, the way that people lived. Of course, there was some places when it first started, but all of those was taken, you know, apartments and everything. And things didn't really start building up a lot until after the war, I mean after World War II ended. That's the reason, they had what they call the [inaudible] houses. They built that for people to live in, to be close by the plant. A lot of people, I was trying to think on back, so many of them I don't recall, I can't even think of their names. But, some of those people there were from various states and my commanding officer was at the Army part, and we still have the Army part of it. Our commanding officer lived right over the second house from me. And I remember several people that lived there, but it's been so long ago. When the plant closed, a lot of them left, you know.

Just out of curiosity, what was the transition like from the construction part of the plant to the operation part of the plant? Was it a difficult transition to go from actually constructing the plant to the production?

A lot of them did go into the operation of course. And then of course, a lot of them didn't, but then some did, yes. Now, I know when I went to get a job down in that section, you had to go in way up here at the end, it's not like it is now and the roads was mud. When I first asked for a job, well, it was not much trouble to get a job at that time, about anyone could go and get a job. I know, when I went to apply for a job, the administration building was where it is now. But, I know they offered me a job down in the plant, the operation. I told them I didn't believe I wanted that. Of course, then you could just pick a job, you might say. Of course, they had what they call, security, they called guard department security. And said, no I don't think I would like that and they asked me about the Fire Department and I knew some people that worked in the Fire Department. One man I knew even knew where I lived, I thought if he could take it, maybe I could. I said, I believe I'll accept that job, so I did. They sent me out and I had to go up to Area A and report in up there. We had a fire truck and a ambulance up there, so we had to make of course, the firemen was working with the safety department. We had to make inspection of buildings all the time, fire extinguishers and things like that, keep them updated and all, things like that, that's what we had to do. If anything happened, well we had to [inaudible].

Just out of curiosity, how did you find out about the job here?

Well, of course, I lived over in Scott County, not far from here and I heard about the plant going up and everything.

Was your job, I assume it was not, but was your job union or non-union?

It was non-union.

Was there any union activity at the plant?

I don't recall any. They might have, construction workers, I'm just not sure about that and I know, I wasn't in any union or anything. It seemed to me, I'm not sure they even had a union.

Was this the first time you had worked for a large company?

Yes.

What did you think about it?

Well, I thought it was all right, I liked it. After all, it was a job and so, I liked the place all right. Although, when I first started work, I didn't know much about my job. But, of course, I got training and when the plant closed, a lot of people, they all left, there weren't very many people working. When the plant was closed, to my knowledge, I know I was down at [inaudible], they had sent me down there, they started to call, we had about 136 people that worked, that was in the administration building and the shop area and all the other was down. I used to drive around through it and you could see raccoons and things running around and across the river and going over to storage of the explosives. And we had the gates and we kept the gates locked, you know, if anyone did come, well it was our duty, well the security guard was the one to go unlock the gate and let them in. [inaudible].

When you started working at the firehouse, was the work stressful or not?

Well, it was yes. Of course, I had to learn a lot.

So, was it easy to master what you had to learn?

Well, I wouldn't call it too easy. But, of course, I never worked for anything like that. Of course, I knew about a Fire Department and all like that, but still, all I knew was there was a fire truck and hose and so on and so forth. But, we had people, they were Lieutenants at that time, and the Lieutenants was over our department up there. I remember the man, he's still living, [inaudible] was in charge of the department up there and I reported to him.

What did you think about your part in the war effort for World War II?

My efforts?

Yeah. I mean, did you feel it was a positive effort or contribution to the war effort?

You mean people working in the plant?

Yeah, ah-huh, right.

Well, I think so. I knew the war was going on. I think the people wanted to do all they could and of course, that's what the plant was built for, still that's what it's for, of course.

So, in other words, people felt that they had a valid contribution to the war effort?

I think so, most of them at least, might have been some not.

What different kinds of people worked at the plant? In other words, what was kind of the ratio of men to women or Whites to Blacks or other minorities?

Well, there was a lot of women in production, because people was in the war everywhere. There was more ladies than there was men at one time I'd say. Of course, a few of them probably was Black, but there was more ladies, a lot of ladies worked in the plant.

Could you guess a percentage of men to women?

Well, I wouldn't want to guess on that. But, I know there was more women than there was men. Of course, there was a lot of men that was over it and all like that, but they had so many ladies working, because men wasn't available.

What about different minorities, were there many that worked at the plant, primarily Blacks, I guess in this area?

Well, there's some Blacks, but not as many, of course. We don't have as many Blacks around in this section, even now, you know. A lot of places like down in the South and everywhere. But they had some, ladies.

What about any other minorities?

What do you mean minorities?

Say Hispanics, any Orientals?

I don't think so.

Was the plant segregated?

Segregated?

Yeah, I mean the Whites and Blacks?

No, I don't think so, Blacks had just like everyone else. And of course, living conditions at that time, the Blacks had to live in certain sections of Kingsport or where ever they worked. Of course, that's not true anymore, you should know that.

Were there jobs that only men did, that women were excluded from?

Well, there was some jobs that men didn't do. And then, in the buildings, of course, they had ladies working and the men was over them, you know.

So, women as a rule, didn't have supervisory jobs or anything?

No, not much. Of course, down in the administration area and some of the other buildings, even the shop area and places like that, they had secretaries and so on and so forth.

Were there any jobs that were only for Whites and not for Blacks or vice versa?

No, I don't recall that of any jobs. If they could do a job, well, there were Blacks working, but of course, very few, because around in this section, we don't have many. There was some that worked there.

Out of curiosity, did the plant provide daycare facilities for mothers who were working?

Not to my knowledge, they might have, but not to my knowledge.

Did any communities in this area around Kingsport provide daycare facilities?

Well, you mean for ladies who were working?

Yeah, ladies who were working at the plant.

Well, they might have. Of course, I'd guess they didn't do that, but I don't recall any. But, I know there's a lot of ladies that worked and I'd say they had to have someone to take care of their children and things like that. Then they had a lot of places, homes that did take people in, people that was working, the ones that couldn't get a place to live, even me. And they paid room and board, you know.

What did parents do if they needed child care while they were working? Did they rely on relatives?

Well, I'd say they relied on relatives mostly. They didn't have anything else like that, relatives, I'm almost sure it would be relatives that'd take care.

Was there a plant of company newspaper over at Holston?

Yes.

What was the name of it, do you remember?

Well, just to recall, I don't remember. We had a paper at the plant, in fact, I've got some of them here somewhere. But, I don't recall exactly what they called it now. They put out in the paper what was going on and pictures of people and so on and so forth.

The next question was what kind of articles did the paper have?

Things like that, pictures of people and what they've been doing.

Like production quotas and things like that, who was producing stuff?

Things like that, yeah.

Were there any special programs to boost morale at the plant?

Well, I'd say, I don't remember any special programs. But, we had people that, well of course, Eastman was here at that time, you know. And we had people I know from them, that come down and they'd meet

with people, you know and talk to them about things. I know, I attended, well in my job when I was promoted, it was called, I guess, what do you call that, it was kind of over a few people. And I had to attend all of the meetings and we had people in the plant that would do that, have meetings and so on and so forth. And some of the people would come down from Eastman because they was running it. Doctors and so on, and talk about things, and of course, we had nurses at the plant.

They did have nurses?

Yeah, they had nurses. I mean, they was to take care of the disabled, if anyone got hurt or anything. They still have it down there.

Right, the infirmary?

Yeah. I know when I first started to work down there, the building I was in, the nurses, telephone operators and us were in the same building. And later on, they built a hospital and the nurses went there and the telephone building, of course, it's torn down and gone now, they worked there in that building. But, when we first started, we was all in one building. I know I learned to do the telephone, there was so many around there, well we had to do a little of all kinds of things. They had us doing everything, although we was in the Fire Department. They trained us to get the locomotives building, oh, I'm trying to think of that, it was down in the chopper end, I was trying to think of the name of the building, there was so many of them. They trained us in case of fire or something, we was suppose to get those engines out of there. They trained us to do that, and of course, it was diesel, you know, and pull them on out, so they wouldn't be in the fire or anything. And the electrical department, why, they tried to train us some way to certain section, to cut the power off. Because if you had a fire or anything . . .

(End Side One, Begin Side Two)

. . . Area B, of course, the area with most chemicals you know. [Inaudible] But they didn't make explosives there, just made chemicals.

Yeah, I think that's where Eastman had it's acetic anhydride operation and they supplied that, with the central part of the whole process was going on in Area B. During the war and everything, did they have like campaigns to get employees to buy war bonds?

Yes they did.

How often did those go on?

Well, they went on quite a while, if you wanted to buy any. Because everyone didn't do anything like that, you could buy if you wanted, and if you didn't, of course you didn't have to or anything like that.

So, they didn't coerce you to buy any, right?

Oh no. But, you could do it. I think I bought some myself.

Yeah, I remember reading that the plant got two I believe, Army/Navy E Awards during the war. Do you remember about that?

Army and Navy?

Army/Navy E Awards, I think they were awards for superior production levels.

I don't recall that.

At the plant here, at the end of World War II, when did your job end? Or did it?

At the end of World War II?

Yeah, because I know the plant went on standby for a while.

Well, it might not have been then.

You stayed on at the . . .

Well, the way it happened, I could be more of a Civil Service or leave. And I was at Area A and they wanted to transfer me, they offered me a job, I'd be with the Civil Service, not Eastman. And I hadn't worked at Area B, oh, I had been down there and all like that, through the plant. But, I decided I wouldn't take it, but, I know some people lived in the staff area at that time, Mr. Sam Barber, I remember his name and I went down and I was going to resign. And I headed down that way and I thought, if I go down there, there's people that have been working down there at the same jobs. And I thought they'd probably not like me coming in there, I didn't know a lot about the plant or anything like that, as much as I did Area A. But I went down one night and talked to him and they kept on, and a fellow Owen, he was the fire chief, and they wanted me to take it. And I finally decided I would do it, I'd take it. I went over to the men that was there, I figured they would resent it, you know. Some of them had more time than I had and things like that, but I found out, it wasn't like that. Everyone there tried to help me in every way they could. I talked to them, we had meetings and so on and so forth. I'd say, now if something happens, that was when I first started, you people have to know a way to get there. I don't know all about it, of course, I kept learning as time went on. But, they were very nice, I remember several of them, but most of them are gone now. The people I worked with back in that day, most of them are not living. There's like 28 of us went over there with Eastman and to the best of my knowledge, only eight of us are living, most of them are gone. And all throughout the plant, of course, it's been so many years ago, people have passed away.

What would you say would be the biggest difference, like in your job, between when you first started working over there and then towards the end? What were the biggest changes that occurred?

Well, I learned more about the job and all like that. But, still things happened even, while the plant was down very little things happened, we were just there to protect it. There wasn't any operation or anything like that, but when it did start back up, of course, we were still working, I was working with the Civil Service and we were in that department. But, whatever happened, we were still responsible for it, we'd see what we could do about it.

Did you ever hear anything on the radio or hear anything at the plant about war profiteering done by defense contractors during the war, or was that ever a topic that came up much in conversation?

Defense contractors?

Yeah. Making excessive profit or anything like that?

I don't recall, when you're under construction, things were going on. At one time, when they were under construction, they had foods and things shipped in there to the cafeteria, they had a big supply building. Of course, I wasn't working at that time, but, I know, the plant, a lot of mules and horses in there, [inaudible]

it wasn't like it is now, on machinery and everything. But, they had little buildings where they deliver foods and things like that.

What was the plant's safety record like, was it pretty good?

I think it was good.

They didn't have too many serious accidents or anything?

No, they didn't. Of course, they had some accidents, but I think it was good.

Did they ever have any plant explosions that you knew of?

Well, yes they did.

Were there any fatalities as a result of it?

No, not as a result of that. I remember one building, [inaudible] had an explosion and we was pretty well sure, I was in the Fire Department and Safety was there too. We wasn't sure that the people were all out of the building and three of us was getting close to the building, trying to find out. Of course, they knew we had an explosion, all ready had one, and when we arrived close to the plant, of course, they had chutes you know, where people would slide out of the building, all the buildings had that. [Inaudible] where you can land.

Yeah, I saw some of those on a tour.

That's right.

They're still in place.

But, at that time, we got close to the [inaudible] and I could see the building, it was just spreading out you know, you could tell nothing was going off and I was real close to the building and it had another explosion. And it did do a lot of damage, it went over the top of us or it would have killed us. What we did do, we all just hit the ground, you know, was the thing to do, fell flat, let it go atop of us. But, if we had been standing up, it might have killed some of us. And there was several trucks parked around and of course, it damaged them all and they stopped a lot of that. After that [inaudible] close to the building, the trucks that they used in the plant. That plant never did operate any more, that particular building I mean of the plant.

Was there a particular part of the plant that was considered more dangerous than the other parts?

Well, I'd say not, 'course they've had explosives, 'course they started out not making them, but they could blow up too. I don't think there's much, one's about as bad as the other. And people loading explosives had to be careful about that, handling so on and so forth in the area where they stored them. Of course, they made ammonium nitrate, [inaudible], I remember that building was T-1, I remember a lot of the buildings, I went over that place many, many times. But it's been so long, I forgot about it. But T-1, ammonium nitrate makes its own oxygen you know, and it's hard to put out. I was there when that happened, caught fire, I started up to Area A and I had to come on back and we couldn't put it out.

That was in T-1?

T-1, here next to [inaudible] you might say. But, we tried, it was frame construction, it wasn't brick or anything you know, of course, they built another one after that. But the B buildings, the fireman, we decided

we'd better try to protect those. [Inaudible] so we did and they built a new one down in the acid area, ammonium nitrate building, it was brick, pretty well fire proof. There's not anything fire proof, [inaudible] or something. Any of them will burn, as long as there's inadequate people.

When new workers came to work at the plant, were they given any particular safety instruction? Were they taught what they should do and shouldn't do?

Well, we had safety instructions and of course, the Safety Department was there also. The Fire Department and the Safety Department was very close together, if we had any emergency, Safety was always there and then we had meetings and things like that. I remember gas masks and things like that, you know, that's when I first started to work. Some of the Safety Department [inaudible] showed us all about it and so on and so forth.

Were you required to wear special clothing as a safety precaution?

Yes.

What was that?

Well, we was supposed to wear safety shoes.

What were they?

Safety shoes.

Were they like . . .

The toe, you know, would be metal. And we was supposed to wear clothing in production, of course they had the coveralls. And the ladies couldn't wear silk underwear or anything.

It would burn, yeah.

Well, it can, I can't think, what it would cause you know, could start a fire, they had to wear cotton, ladies underwear. And then the men, of course, they furnished our clothes to wear. We went down in the plants to make inspections and things like that in the explosive area, we had to wear those clothes and we were required to wear safety shoes all the time, so as to protect our feet.

What about safety glasses?

Yes, we had safety glasses.

And hard hats too?

Oh yes.

Did Holston provide that safety clothing or were you required to buy it?

No, we weren't required to buy it, they furnished it.

Did you ever hear about people in Kingsport worrying about whether the plant was going to blow up or not?

Well, some did. I'd say some did, I don't think a lot, but I'd say some did and what you did have some explosives, one I remember, it blew out a hole in the ground, it looked like it could bury a house. And I remember the coincidence, they moved us, we were close to the building and they called out the Safety Department over the loud speaker for us to get away from it as much as we could. We went down to B1 and then they called us back up to the service station and it blew a lot of things. The Fire Department's way up on the hill as you first go in and a lot of metal things are in back of that building. So, with that kind of settled down, they reported us back down that the fire was spreading to other buildings in the ground and they reported us to get back in there and try to get it out. I know we did, because we had flaps and things you know, they couldn't get the trucks down in there, fire truck. [Inaudible] and I'd look up at that building and think, there was still lots of explosives in there, thinking that might go off, but it didn't.

If you were putting out a fire like that, did you use water?

If we could get to it, we did with water. But, like at that time, we couldn't get there with the water. Of course, we had to use water in different ways. You couldn't just put plain water, like fire extinguisher or anything, they had some other types, you know.

Because of the chemicals and stuff?

Chemicals and things like that, yes. A regular building, why you could use water of course.

Did they have like different types of water to use in different buildings depending on the chemicals they had?

We had fire extinguishers that you could use on things like that.

It seems like that would be kind of difficult to have to work with.

The first thing we started out with. I don't know why I can't remember, I was into that so much. And they finally decided they were dangerous, I mean to the person that put out fires. Of course, we had a CO₂ extinguisher and water extinguisher, where you use water, you know.

How was the pay at the plant?

Yes, I think it was pretty good, considering you know, at that time.

How did it compare with the pay at jobs outside of the plant?

Well, I think it compared with that all right, depending on what kind of work you was doing of course.

As far as you know, was the pay the same for everyone in the same job class? For example, if a man, woman or White or Black worked on a certain production line, if they did that task, were they all paid the same or was there a different pay scale for men and women?

In my opinion, women were paid less and of course the Blacks, like the men, what ever they was doing, I'd say they were paid like other people. But, the women in most cases, even yet today, I think they're paid less in most jobs. Of course, there's not many women works down there, they've got secretaries and so on. I don't think there's any women in production, but there used to be of course, plenty of them.

In World War II, right.

Oh yeah.

That's what I'm thinking about primarily, during World War II, would they have been paid differently?

In my opinion, they were. I wouldn't be sure about that.

Did most people or did many people manage to save a lot of money from working at the plant during the World War II?

Some did, some didn't, you know how that goes.

Yeah, just like everybody. How did most people spend their money when they worked at the plant during the war?

Well, they just spent it like people do now, most of them. Because like I say, some of them saved their money and bought bonds and things like that and some didn't. As the plant closed, people just scattered everywhere, left there and we had people there from various states in certain types of jobs.

Did most of the newcomers to the area mix well with the local people?

I think they did, yes, I believe they did.

There wasn't a lot of animosity between one group and the other?

No, I don't think so, to any extent. I know living in the staff area, there's a lot of people in higher jobs than I did and all like that, and we got along well. And we had a little recreation over in the staff area, volleyball and things like that, you know. Just, not much recreation, but a little. And the men that lived there, a lot of them had children.

What did the newcomers and the locals think of each other?

Local people, you mean mixed with other people from various places?

Yeah, ah-huh.

I think they mixed all right in most cases. I know where I lived, we had people there that wasn't from Kingsport or around here, they were from other places. But, we got along well, in most cases, there might have been some, I'm not going to say there wasn't, I don't know.

Did the plant encourage local people and newcomers to socialize together?

I think so, yes.

For events that they had, sponsored?

Yes, I think so.

What was Kingsport like during the war, did they allow gambling, things like that?

No, didn't have gambling.

Was there a push to allow gambling?

Well, no, they didn't have gambling around Kingsport. I suppose as time went on, I think some of the clubs might have it or something like that.

Sort of under the table?

Like, well I belonged to the Moose Lodge, they had slots machines in there and they finally cut that out, you know. I tell you, there just wasn't any gambling places.

How much did Kingsport grow during that period, I guess they grew pretty fast?

Well, it did grow, it did grow some, yes.

What kind of housing arrangements did they have to make to put up all the people that came in or was there a big housing boom to make housing for them?

Well, of course, they tried to make some houses and like we say, so many people working there come from other places, all ready had homes, you know. But, that's one reason they built what they called the staff area, for certain types of people. It could be administration, places like that to live in, the commanding officer, people in service, they mostly lived in the staff area. Next to me, there was a Lieutenant, there was a few of those people, just different people.

Was there a higher incidence of illness or sickness as a result of the influx of people then? Was there any danger of like epidemics?

I don't think so.

I remember that I had read somewhere that there a potentially greater threat of it, because of the greater influx of people then.

Well, yes, that would be true too.

But, nothing bad like that ever happened in Kingsport?

No, I don't think so.

Were there war supplies and the sewerage arrangements in the Kingsport area adequate during the war?

Well, yes in the Kingsport area, I think so. Of course, the plant had sewer lines, you know, the plant had that.

Had some sewer lines?

Oh yeah, they had sewer lines and like where I lived in the houses, we had sewer lines and they come out of the plant. Of course, they had to have sewer lines.

Were there any new ideas, as a result of the Ordnance Plant being here, about the pros and cons of like an industrial type job versus agricultural job? Did more people decide after working at Holston that they wanted to continue on in industry? Or did a lot of them prefer to go back to agriculture as soon as they could?

Well, I think during the operation, in most cases, they preferred working, because there was plenty of people farming and all like that you know. They never even tried to get a job there, because in all the sections around through here, a lot of it's farm land. In fact, I was raised on a farm myself over in Scott County, Virginia.

Was there a curfew in town?

Curfew?

During the war, yeah?

I don't exactly recall one like that. You could travel all around through town, what there was of it. Well, there was more of it there than is now, it's about all gone now.

I was just wondering if they had a curfew like at night, if you had to be in at a certain time or blackout or anything like that?

No, I don't recall that.

Do you recall anybody disliking the plant during World War II, because it made munitions?

I'd say there were some, but I don't recall any particular one or anything. I'd say there were some of course.

What about later on, during the Korean War and during Vietnam and of course, they still made munitions, was there any local protest about that?

Well, I wouldn't say too much, no.

What would you say would be the biggest change that the plant brought to this area?

Well, I would say they brought quite a bit of change, because there was so many people in getting jobs and things like that.

So, a lot of them stayed after the war, stayed on in Kingsport?

Yes, a lot of them did. We had people that come in here from various places that still live in Kingsport.

Could you make a guess or estimate of how many women worked at the plant?

Well, I wouldn't have any estimate, no. I know there were quite a few women, but as far, I wouldn't make an estimate, compared to the men.

Did you say that it seemed like most of the people that worked on the production line were men or were some of them women?

No, some of them were women.

Women as well, okay. I know the plant was down for four years from '46 to '49, but after it picked back up again, did women go back to the plant to work in great numbers like they had done in World War II?

No. I don't think so, there was still some women working, but not like there were before, I don't think. Because, well, when it started back up, it didn't, the plant didn't require as many people to work as it did before. Some of the lines were down and various things you know, but it's still operating. At one time during World War II, everything was going, all ten lines.

So, the women that worked at the plant, after the war was over, did they go back home, did they take other types of jobs?

Well, a lot of them did, a lot of them of course went back home and a lot of them took other jobs and things like that when they could get one.

What other kinds of jobs would they have taken, do you know?

Well, no.

Did any of them go to work for Tennessee Eastman after that?

I'd say some of them did. I'd say some did and some of the other plants here in Kingsport, you know. I don't know how many or anything like that. And the Press, they don't call it the Press now and Mead Fiber and oh another plant. [inaudible]. Of course, some of them went home and just stayed at home, raised their family and so on.

Was there like a real major labor shortage at the plant during the war?

No, they seemed to have enough. But then, like I say, they come in from everywhere. It was easy to get a job, you know, because of that. At that time, there was so many people in the war, there wasn't so many people available and that's why they had to have so many women.

Do you remember any discussions in the community or like hearing things over the radio about hiring practices of the plant, I mean, the plant preferred to hire certain people over others or did you ever hear anything about that?

I don't think I heard anything about that.

Did the plant prefer to hire non-union or do you know anything about that?

I don't think the plant, after the plant began operation, they didn't have a union. Of course, when I was doing the construction, it might have been different.

I guess most people probably did lose their jobs at the plant, because I know the plant went on standby?

Oh sure.

At the end of World War II?

Like I say, at one time, I happened to have been one of them, there was, I believe to my knowledge, 134 people, administration and the shop department, that's all that was going on.

How many people did they have at the plant, when it was on standby between like '46 and '49, before they started production back up again?

Very few.

It was just like a skeleton crew to take care of the place?

Yeah, skeleton crew, yes.

Were you working there then?

Yes.

So, you were right there all the way through?

Yes, I stayed through it all. There wasn't many of us left, but of course, administration had the building and the shop area had it and then we had the Fire Department and they had Security Guards, they called security. I don't know whether they called them guards and at one time, they put us all together, we was doing both. They soon cut that out, I was glad they did, I never did like a job carrying a gun, but they put us together, it cost less and so on. Then they went back to the regular way of doing it.

Did the fact that the plant was located here, did that affect people's attitudes towards the war? Did it boost morale to have the war plant here?

Well, I'd say it did. Of course, I'd say some people didn't want it or something like that, but I think the majority of the people did, because they knew the war was going on and in spite of the comings in there, they was making things for the war and get it over with.

What were race relations like during the . . .

Labor?

No, race relations like during the war, were they pretty good?

I'd say they were pretty good yes. Of course, we didn't have many people, there weren't many Blacks or anything, but they had some.

Were there any laws or regulations that prohibited discrimination at the plant or did you ever hear of anything like that?

No, never.

What about Fair Employment Practices Committee, or any posters that exhorted different ethnic groups to get along or anything like that happen at that plant?

What was that question?

Fair Employment Practices Committee, I think it was a local labor committee that was set up during the war to ensure that they were amiable relations between different ethnic groups that were working at munitions plants. It may not have been that much of a concern at Holston, because like you said, there weren't that many that were here to begin with.

No, I don't there were, not to my knowledge.

What do you think's going to happen, do you think the plant should be permanently closed? I know they're down sizing even now and decreasing the size of it.

Well, very little's going on now. Because the government, as you well know about that, they're trying to cut everything, expenses, they can. And I have just in my mind, I thought it might just eventually close, I don't know of course about that. I know what the government's doing, they're cutting out everything they can, everywhere of course. Our government's in debt so, and in my opinion, will never be out, the way it looks now to me.

Do you think it would be a good idea or not?

Well, some of the things, I think would be all right, but they are cutting things out, I don't know what it would be, but our government's got to do something, we're in debt so. [Inaudible] a lot of the Army bases and things like that, they're closing down.

That's true, a lot of them are closing down, they're consolidating a lot of them, from one to another.

Trying to save money and they've cut off a lot of people and places and still doing that. That's not about the war, it's just about trying to see if we can't get this deficit down.

Right, exactly. Well, that concludes all the questions I've got here that I need to address anyway. So, I'd definitely like to thank you for your participation in this.

Well, I was glad to do what I could do. Like I did say, I've been gone so long, I forgot a lot about it. I remember working and all like that, when you're away from the plant so long. Like I say, I retired in April, 1977 and I started there in 1943, and I had 25 years with Eastman and the other was with Civil Service. And the first two years I lost that, we went over with the Civil Service, they wouldn't let us use that, but I did get 25 years.

If you don't mind my asking, what's your birthdate?

March 11, 1912. I'm 83 years old.

I'm sure they want that for the record.

Well, that's my age. I've been sick last year, of course that has nothing to do with the plant. I'd like to, I'd like not made it and my wife's been sick for two years, staying in a nursing home and hospital. Of course, I was retired and all that, and I thought when I had to place her in a nursing home, of course this doesn't have anything to do with this.

If you don't mind, we can continue the conversation, I'll just shut this off, if you don't mind.

Yeah, cut it off.

(End of Tape)

RAYMOND B. HERRING
September 27, 1995
Kingsport, Tennessee
Mark T. Swanson, Interviewer

Tell me, if you would just state your name and your birthdate?

Raymond B. Herring, my birthdate was July 26, 1920.

And you were born where?

I was born in Pennbrook, Kentucky. My father was in school up there at the time. Although, I consider myself a native Texan and within 60 days, I'll be living in Texas.

So, how long have you lived in this area?

I've lived in Kingsport 56 years.

What year was that, that you moved here?

1941, early '41 or 1955, close.

Why did you move to Kingsport?

I was offered a job with Tennessee Eastman as a Chemist.

That was actually before anything was going on with Holston?

Very shortly before.

Very shortly before, right. Did you have any relatives here or anything?

No. No connections here, except just had submitted a resume and was offered a job here.

Was that after you finished up in school or something?

Right.

And you went to school where?

I attended, got a B.S. Degree at Baylor University in Waco, Texas. And then, after I came here, Eastman extended my education in connection with Holston work, in fact, by sending me up to Cornell for some graduate work with Dr. Chamot and Dr. Mason [*inaudible*] the famous chemical engineer.

Those names that you mentioned, how do you spell those?

The teachers?

Yeah.

Chamot, C-H-A-M-O-T. And Mason, M-A-S-O-N.

How much were you getting paid when you first started working at Tennessee Eastman?

Twenty-seven dollars and fifty cents a week.

Was that fairly typical for wages around here?

I would say that's typical. In fact, Eastman has always made a strong effort to keep wages equivalent or better than those prevailing in the area. There was not a lot of chemical competition in the area at that time.

What was your task when you first came to work here at Eastman?

Actually, it was just a series of training sessions that they sent me through in various areas of the plant. And it happened that one of those early ones, was in the acid division and then, very suddenly the course of my whole history changed in a hurry. Because, Eastman took on a feasibility study for the recovery of acetic acid from the Western Cartridge Company in Canada, which was undertaking a plant to manufacture RDX. They had a whole lot, about 30 or 35 percent acetic acid, which they wanted to reconvert to (glacial?) acetic acid and then reconvert to acid [inaudible]. Their process was not identical to the one used by Holston, but it did involve a lot of acetic acid. So, I was transferred into that little task force and it was a tiny one. There were only two or three of us that worked in that.

For the record, that was the one that began, I think, didn't the government contact Eastman back in November of '41?

Right, it was late '41 when that little project started and it was all run in one room over in the research lab, which was very small compared to what they are now, very small and very restricted. Most people in the plant didn't know anything like that was even going on around here. Because the acid when being shipped down here, was shipped down here in stainless steel drums, RDX settled out in it. So, we began to get some early experience with RDX from those crystals that fell out in the barrel.

In fact, I heard this morning, that Eastman wasn't really sure just what was in those things, they were really kind of mum about the fact that it may have been RDX in there with the diluted acid.

More than curiosity, I guess, that most chemists say, I think, they couldn't do their job very well if they didn't, would of course, filter some of those out. There's not much there, because RDX is pretty sparing and soluble in room temperature acetic acid. But, we dried it, took it out into the shop there at Eastman and found a little pimple in the anvil, and put it down there and hit it with the hammer and it exploded.

I guess that's not the kind of thing you'd expect to have to put up with when you go to work?

But very close to that time, Mr. Stone and some of the other Eastman executives were also working with the National Defense Research Committee, to submit a proposal for pilot plant manufacturer of RDX at Kingsport, and that happened, right in the midst of that project. In fact, I was not working on that project more than about, to my memory now, five or six weeks, and I was transferred to the pilot plant crew that was going to operate the pilot plant to make RDX.

These were the pilot plants that [inaudible]?

[Inaudible] Bend Pilot Plant, First Creek Road, Incorporation area.

And then after those became successful, the government came back and said, now let's do the whole thing?

Yeah, do the engineering studies and build the plant. That was a pretty miraculous story, that crew out there, we were a small crew working in that little pilot plant area, made RDX in what they named the jeep, which was a u-shaped glass tube, with a little cross bar, so that the liquid could circulate. And we'd start out with acetic acid and then we'd add nitric acid and ammonium nitrate and acetic anhydride and hexamine, and we made some RDX fairly quickly that way. And in about, if my memory's right, it was less than 50 days before we had a pilot plant running with a fairly good size reactor, making RDX in the pilot plant there, which would have been, those were hectic days, nearly everybody was working at least 12 hour shifts, and being relieved by the same man everyday and you relieved him. One of you had to show up to the let the other one go home. Those were quite wonderful days, though, because there was a great spirit of camaraderie and purpose in what we were doing. We knew what we were doing and RDX was in such extreme demand and in such short supply at that time, that the minute we started incorporating RDX, it was shipped out of here almost warm to England. And was put in some special bombs that the RAF was making. The only bombs that they were ever told not to abort after a mission, bring them back. Because, there was just that little of RDX available and those bombs were specifically designed to combat the menace or the turpits class battleships that were roaming the fjords of Norway and the English Channel down through there. And they were really king of the sea in those days, because the turpits itself, had 26 inches of armor in three sheets on the decks and none of conventional missiles or bombs would touch that. But, it was not long until the RAF found the turpits, at ease up there in one of the fjords in Norway, and they hit it and we were given an intelligence report that those bombs took about four foot diameter plugs out of all three of those deck plates and sent them right out through the bottom, because of the extremely high velocity of the RDX TNT mixture.

I heard they were very useful in combating u-boats.

Well, the u-boat thing is a little bit different story, as I reached it and I was quite active in working with the Naval Ordnance Labs and the torpedo loading stations over in Norfolk. They were at that time using primarily 500 pound depth chargers or TNT, and these were cumbersome and tricky to use and they certainly let it be known, if it'd hit a submarine. But, RDX offered so much more velocity and all, that it was because of RDX compositions that the hedgehog missile was developed. This was a missile that was named that because in profile, it looked like a hemisphere with quills sticking out on it. Those were only 18 pound RDX charges, but they would effectively punch a hole in any submarine in the water, and they were sprayed out in a pattern from this shell, the major portion shell, sprayed out into a pattern and just sunk down quietly through the water. And if one of those hit the submarine, he was pierced, and so RDX played a tremendous role, submarines were really giving us a fit in shipping in the North Atlantic.

So, in other words, they didn't necessarily have to use just depth chargers?

Well, it cut out the use of, it replaced 500 pound charges with 18 pound charges, and if they did not hit the submarine, they didn't explode immediately anywhere. So, the submarine didn't know it was being fired on even, there was no propulsion, it just settled down through the water, in that pattern, they really made a revolution in the submarine warfare. All during that time, I was privileged to be working, as I said, with the Naval Ordnance Lab in Silver Spring, Maryland, with the Naval Ordnance depot in Norfolk, Virginia and a lot of other contacts in the AEC and other places that were quite interested in RDX through those years.

Yeah, anytime I ask anything, if you want to go off on any kind of a tangent and explain what was going on, that's the kind of stuff we want to get definitely. Going back to this thing here, do you know anything about land values, how they changed when Holston went in? Did land values sky rocket here?

They certainly began to change, because there was just not enough to go around, not enough places for houses and buildings. Although, I suppose the area was more protected than some of the other places. But, I know specifically, on (Catalbra?) Street here, there were no houses out past Oak Street. And I think, the Kingsport Development Company was then the major real estate developer of Kingsport, split those up into lots and they sold like hotcakes and people built small homes, wonderful homes in there at that time. I couldn't tell you much about what happened to the prices of land though, I'm not an expert in that field and wouldn't want to give you any information on that.

What was it like in Kingsport when you first moved here? Again, we talked briefly about the housing availability, that it was very tight.

Very tight.

I know from talking to other people, that they were renting out rooms in houses.

Yes, a lot of good citizens that were patriotic, were renting rooms. In fact, when I stayed here, I stayed in a very nice room in a house on (Wataga?) Street with some very fine people up there, I lived there about two years.

What about food, did that go up in price any as a result of Holston being here? Was the availability affected any?

I certainly never did feel that. I wouldn't have much index on the price, since I just stayed in a boarding house. I ate in a boarding house all the time. I was single and I wouldn't know too much about the price of food.

What did people do for entertainment back in those days?

That was a major problem, there was very little in this area at that time. I'm sure the area was behind most other areas in that respect. There were two theaters downtown and really not much.

And what would you say would be a typical salary in Kingsport about that time, or do you have any feeling on that?

No, I really don't know. The fine man, Mr. Fullard, that I lived with on Wataga had been a real estate man, a veteran real estate man in Kingsport over many years. And he was showing me a nice house he wanted a friend of mine and myself to go together and buy a house. And he said, Ray I'd like to tell you something, I want you to remember that there was a time and not very long when any house in Kingsport could be bought for less than \$10,000 and that was not true by that time, that was about 1942 or 1943, somewhere in that area. So, prices were changing on real estate.

What was the reaction of most people in the area when they learned the government was going to buy up that land for Holston?

I really never did feel that there was any objection to our work here. I felt the people in this area were unusually good citizens in the respect that, if that's our part in the war effort, that's what we'll do. I felt the attitude was very good and it was cooperative. The railroad ran flat cars with benches on 'em to get people

to this plant--Area A and Area B--here for a long time. I think those came all the way from Johnson City in fact.

I assume then that you didn't own any of the land that was purchased?

Excuse me?

You didn't own any of the land that was purchased for Holston?

No, I didn't have any of it.

As far as you know, were most people compensated well for the land that was bought at Holston? I know they had a dairy there.

They had a beautiful dairy there. I well remember the want ad in the paper that said, beautiful dairy herd for sale, beautiful brown eyes, sounded just like a description of a woman, rather than a cow. (Laughter) And part of our early work on testing stainless steel for corrosion resistance was set up in the dairy barn of that farm down there, [inaudible] might be an interesting little side line.

So, in other words, they used some of the original buildings until they . . .

Yes, the dairy barn was set up as the corrosion lab and we did a lot of corrosion planning to put in a nitric acid plant and have all the mixed acids we had.

What were the conditions at the construction site when it first got going?

They were tough, there's no question about it. That first winter down there was a very rainy winter and I've seen large bulldozers mired down completely and having to bring other bulldozers in to help winch them out of places down there. It was actually a very beautiful and suitable piece of land for the plant down there.

Did most of workers as far as you know, live in town or did they live on the site?

We had people commuting from rather long distances to work here, places like Johnson City, Bristol, places like that. Because there just wasn't enough supply of people here, to supply the need.

So was there a work camp in the area, B-area, like a construction camp where the workers were allowed to stay?

There were some temporary barracks, but I don't know the exact names. They weren't an extensive thing here and most of the people, a lot of the people came from Southwest Virginia to work at the plant, Gate City and towns like that close by.

Yeah, I heard a lot of people commuted from distances like 40, 60 miles.

Yeah, I think we had a few people here from (Elizabethton?) and that's quite a long commute, they had carpools of course.

So, what kind of people worked at Holston? Did they mostly come from this general vicinity, or were any of them imported from other parts of the country?

I think most of them, the operating force of the plant, were mostly people from this area. And I think Eastman very wisely had built here in the first place, because the quality of the operators they could get from this area. People in this area make very good chemical operators. We had some choice ones.

Did most people get along at the plant, like locals versus non-locals?

Oh yes, I thought there was a very good spirit at the plant. The plant was pretty democratic, because all the operational people, that included the lab people and all. Because the chemical nature of the chemicals on the human system were unknown, ran an awful lot of controls on blood tests and we all wore white cotton coveralls that were laundered everyday. And your underwear, your socks, your shoes and all were issued to you and you had two changes, and one went to the laundry after every shift and was laundered for the next shift. You only wore it one shift. That made a very democratic atmosphere really, and even supervision, high supervision that went down into the plant was required to put those coveralls on.

What about any minorities and stuff, did they have any sizeable presence at the plant?

Not any more than just the statistical sample of the area. Kingsport had a very, very minor incidence of any minority problems really.

Were there any jobs that were specifically allocated to, let's say back in those days, Whites versus Blacks, or anything along those lines?

No, I don't think there was any. I don't feel there was any discrimination there. Now, Eastman did bring in some very brilliant chemical people that were recent graduates, they brought a man that had been Dr. Bachman's assistant up at Michigan. He was the one that actually did the first lab work.

Was that McNaughton?

Dr. W. E. Bachman.

Was that McNaughton?

Yeah, McNaughton had worked for him and McNaughton came here a very brilliant chemist and they brought in a number of those. But, actually all the operational people, people that had been at Eastman before, were aware that this was done. And I don't think there was ever any resentment toward these people. Boy, when that pilot plant got running full steam, we had a parade of dignitaries and technical people from the National Defense Research Committee and places like that. We had people in all the time.

Out of curiosity, this is sort of like a different question here, but, I had a lot of references to the National, what was the name of it again?

National Defense Research Committee.

Right, and they seemed to, at some level, be coordinating what was going on between Dr. Bachman and Eastman and then the ordnance.

They did have a role there, I couldn't put it on paper, or tell you what it was. But, I do know that many of their dignitaries and all were in here all the time, checking on the operation of the pilot plant. And I guess, since it looked like from the first, that this was going to be the sole RDX plant, really of any consequence.

There was a small plant at (Wabash?), Indiana that made RDX by the direct nitration process, which was really not a very practical process. This is the one that . . .

That's the one the British used, right?

Yeah, and the chemist, the German chemist hinting that it first synthesized RDX, he thought of as a kidney medicine way back there in the late 1800s, used that process and it was very impractical process. Nitrous oxide fumes like you cannot believe from that, and the Holston process turned out to be relatively clean process in that respect.

How did Dr. Bachman come up with that?

He was a genius, I guess. And I think, he knew what the problem was. He had probably been made aware of the problem of the direct nitration and I'm having to sort of piece this together. But, Dr. Bachman came down here and worked in our pilot plant lab for a while. He was a miraculous man, wonderful man to work with and he did, or we had sort of grown up in the [inaudible] chemistry experiments. He only wanted about two feet of bench space and tiny, little glassware which he worked with, he was a wonderful guy, just quite different from anybody I'd ever seen before.

So, from that he was able to come up with . . .

He came up with basic ideas of this process, which involved only three liquid feeds, nobody had ever done that before. The process has always been very cumbersome and bulky.

But, I've heard too, that Holston was able to make some improvements on Dr. Bachman's method as well.

Oh yeah, he went through an intermediate stage of solid, all the chemicals were numbered down there. This isn't typical in the Eastman operation here, all chemicals had numbers.

Like a 506 was . . .

506 was RDX and 510 was [inaudible] which the Atomic Energy Commission became so interested in. 501 was hexamine and there were that whole series.

503 was that . . .

Nitric acid--503; 504 was a solution of ammonia nitrate and nitric acid that was one of the three [inaudible] of the reactor; 509 was acetic anhydride, 521 was acetic acid and it contained the hexamine.

Was that required by the government later on, or was that just simply a . . .

No, this was just basic Eastman operation here in Kingsport. The operators operated by numbers, because it was felt with their background, many of them just rural farm people, good hard workers. That they would operate better, operating with the number 501 than they would to try to remember acetic acid. And the whole Eastman plant was operated that way. So, the mold of Eastman just carried over down there and it was used down there, and it was probably of some advantage from security purposes too, from anyone that came in there that might be looking at tank cars to see how they were labeled and all, they wouldn't know what they were looking at.

So, Eastman used these numbers well before the war, that's just a standard process?

Oh my yes, they were long history here for Tennessee Eastman. Well, they added some for new chemicals that were coming in that we hadn't used before, of course. For instance, the original specifications for composition B contained 1 percent African Beeswax. Quite early it became evident that there was not going to be enough beeswax out of Africa to handle this. So, extensive lab work was done on a substitute for that wax. In fact, I think now all the products [inaudible]. They thought it was necessary desynthesize the material with the wax. They made blends of paraffin and some petroleum products made by some of the big petroleum companies, aristowax and things like that, that behaved a whole lot like beeswax in the comp B.

How would you say that the Kingsport area changed as a result of Holston being here, let's say from during the war years. I suppose there would be more business, was there more crime as a result of that or as a result of Kingsport growing?

That was certainly not noticeable to me. I think the change was in the size of the town, Kingsport was pretty small and actually at one time, (Frasier?) Brace Engineering had as many as the population of Kingsport working in Area B alone. Huge throngs of construction work were here and that made a bit of a difference in the town, I think, having construction workers here.

Where did (Frasier?) Brace get them from, the construction workers?

They hired an awful lot of people here. I can't tell you what percentage it was or anything, but, basic big contracting and then there were a lot of subcontracts down there. A lot of local contractors did real well here and grew, because of the work area. Some of the people being experts in heating and cooling and things like that did real well.

Was there a relatively smooth transition from construction to the production end of Holston?

Oh yes, I felt it was very good. The ten lines were built in order and by the time two or three were running, well, that first one was the pilot plant and they were increasing the diameter of the reactors and length of the reactors and, increasing capacity of the plant.

If you don't mind, I know you worked at the lab building, right?

Right, yes I was in charge of that lab building and all the control labs around the plant and the old buildings and the one over at the nitric acid plant and the one at primary installation.

If it's possible, could you describe an average day of working at Holston?

Well they were busy days, but fun days. There was an awful lot of routine analysis that had to be set up and we had that set up at Building 8 Lab, where all the standard solutions were made up and carried in five gallon jugs on a rack to all the various labs around the plant. And all the reagents had to be made up and of course, that involved some developmental chemistry. But, at the same time we had a small group of fellows there that were also doing the research work on the plant, how to change the crystal structures of RDX and all the different things like that. How to increase the yield of the reactors in the plant with the little lab reactors that we ran. Months and months and months to try to squeeze every ounce of RDX out of hexamine that we could. That was one of the big advantages that we had, that direct nitration process made roughly only a little over a pound of RDX per pound of hexamine. We were able to get up to about 2.6 pounds of RDX per pound of hexamine with the process here. One-half of that raw material was just destroyed in these horrible fumes, which so befouled the atmosphere out at Walbash and had over in [inaudible] too. It was a terrible problem. In fact, the improvements in both the method of making the RDX and the improvements in the equipment here, and the handling of the equipment, did a very interesting thing, there was a time in

the early history of that Atlantic submarine warfare and the turpits type warfare that we talked about it. When it was reported to us that England was willing to pay \$1 a pound for composition B. Before the whole thing was over, when we were at peak production at Area B, we were making RDX at the same price of TNT. And TNT was made in 20 or 30 plants around the country in huge quantities. But, we were able [inaudible] improvement process, brought the prices of RDX down steadily through the whole operation down there.

What was the availability of RDX compared to TNT? I assume that RDX was much more scarce?

I really don't have those capacity figures. But, I'd say, perhaps by the end of the war, we were making maybe 20 percent as much RDX here as TNT and that's strictly a guess, that 20 percent. TNT was quite a bit more, significantly more and we brought TNT in here and mixed it with RDX at a ratio of 40 parts of TNT and 60 parts of RDX.

Where did Holston get the TNT from?

Any number of these plants.

It wasn't just one?

No, there were about 20 plants, I'm sure the war procurement agency had a lot to do with that, where we got, but we had priority. We'd get us stainless steel, we'd get us TNT, we'd get us what we needed, because we always had wonderful cooperation in getting what we needed to get that plant underway and to enlarge it.

Before you came to work at Holston, what did you think working at Holston was going to be like when you first heard about the project? I guess we're talking about a question of supposition, and did it turn out to be as good as you thought it was going to be, or better or worse?

I really enjoyed my years at Eastman all the way through. And those at Holston were very good ones and I literally grew up with the process right from the [inaudible] in the pilot plant, right from that little glass reactor right on through the big things, it was really a wonderful and challenging opportunity, I felt.

From what I've gathered so far from talking with other people, it seems like the plant at Holston was nonunion, correct?

All the way. Now, that had been a bit of a problem if there were a problem. Of course, (Frasier?) Brace was union and we had some union suppliers that came in and worked. Eastman had been traditionally nonunion here too, as was Eastman Kodak.

Would you say there was a lot of pressure put on employees in order to produce the kind of figures that they produced at Holston?

I would say not, certainly not in my own personal experience. I was motivated by wanting to get that job done, because I was sold on the importance of what I was doing. And as it was, slowly came to me with the trips I made to Los Alamos and Livermore Lab, I would envision be all those other places. When I realized that we were also playing a key part in the development of atomic weapons, that was all the motivation I needed and I never did feel any pressure. Of course, management's paid to sit up there and to know when the deadline is and when you're going to get it done. But, we, I felt always were able to meet those with unusually good spirits and speed here. I never did feel that way.

We talked about the plant's role in the war effort and everything. Would you say that there were certain jobs that were allocated to women and other jobs that were allocated to men at Holston?

We had a lot of women working at Holston and they did some tough manual labor. Things like the RDX was packed into wooden boxes in the buildings down at the end of the corporation buildings where it went on the Hershey chocolate belts and came out the little pellets, that was put on the chafers and a lot of that testing of those boxes was done by some fine gals that just worked like crazy. They had quite a number in there, I'd say more than men probably, in that particular area. And in fact, Dr. Baxter, a history professor over at East Tennessee State has done a study of the use of women as employment at Area B and he's got statistics on it.

Okay, what's his name again?

Dr. Baxter, he's in the history department. I've had courses from him. You can tell him I referred you to him, in fact, he's the one that got me lined up to do this oral history thing for them on Area B. This is sort of extraneous, but I feel it is, to me, one of the greatest tributes to Eastman and Eastman's management and their cooperation of the people, that we made all those billions of pounds of explosives down there and never killed a man from the explosive itself. Now, we had an electrician in the construction crews that died, we had a man that was killed, he was burned with hot caustic in the tank, not even related to RDX manufacturer. And there were a few miscellaneous things like that, but we did not have a death due to RDX.

Which is a much better record as I understand it, than some of the other . . .

Boy, I tell you, there were some plants and I'm not going to speak about those, I visited so many of them. I wrote a letter of complaint about one of them and it wasn't long until they had a drastic accident there.

Was that the St. Louis plant?

The what?

There was one in St. Louis where they had an accident and I believe there was one in Kansas.

They had accidents in lots of places, but all you had to do was just walk through there and appreciate their cleanliness and careful operation that was done down here at Holston. They were extremely careful. In fact, [inaudible] driven by steam powered engines, so there wouldn't be any electrical sparks or anything in there. And beautiful steam engines, boy they were nice.

Going back to the race question here, as far as you remember, was the plant segregated back in those days? In other words, did they have like Black and White facilities?

No, we just had those change houses. As far as I know, there was no segregation and that's where you went in every afternoon after work and you took a shower and put on your clothes to wear home and left your coveralls for the laundry, left our clothing for the laundry.

And another question was dealing with daycare facilities. Were there any daycare facilities provided at Holston for women who had kids and if not, then where did they go for that kind of stuff?

I'm not aware of any and I would say that in this area, most of the women that came down there, came out of patriotic duty and had somebody in the family to take care of the children. That's just a speculation.

That's what the others had speculated too, most people said they didn't know.

I just don't think it was provided and I don't think it was really much of a hindrance, the way the people in this area felt about the war effort. I was real pleased to be here in this area, because of the patriotism I felt that drove people.

Was there a plant or a company newspaper during those days?

Well, most of the contract employees at Holston Defense Corporation received the Tennessee Eastman News, and also could use the credit union and had many of the benefits that Eastman all ready had in place here. I don't believe we had a organ as such that was considered a newspaper.

So, there wasn't one particularly for Holston?

No, I don't think so, not that I'm aware of. I believe I'd remember that if it were there.

How often did they have morale boosting efforts, like they've got here, like blood drives? But, I've been told they didn't do blood drives back then, they didn't collect blood.

They collected blood off of me about every week out there at that [inaudible] Bend Pilot Plant, for I don't know how long. But, the Eastman Medical Department did it.

Yeah, but wasn't that just to check for a plastic anemia or something?

Yeah, they were afraid existed and in fact, I've just gone through chemotherapy probably on account of that. I'm just getting out of it right now in fact.

But they didn't do blood drives in order to get blood for blood banks and things like that, because I heard they didn't really have blood banks?

No, I don't think we had much of that.

What about other things like bonds and things like that?

Yeah, we had bond drives and the laboratory was saddled with the responsibility of doing some safety training for all of the line employees that worked with RDX and TNT and we'd bring them up and have a simplified lecture that they liked and we'd flip a little pure dry RDX onto a hot plate and show them what a flash and what poof it makes and then we took them out behind the lab building there and we had cast cones of TNT one ounce, and comp B one ounce and would shoot those on quarter inch steel plates. The TNT would indent the plate, the RDX would cut a clean hole through the plate.

Yeah, I've seen examples of that.

I've still got a pair of those. We buried tons and tons of those plates. We did that often, three times a day for months in a row, bringing in about 30 people at a time from the production line, showing them that, bringing them up on a bus, show them that to impress them of the fact that they're not dealing with maple sugar.

I understand the plant got a number of Army/Navy E Awards.

We did have a number and I couldn't tell you how many. But, we flew that flag most of the time down there.

And I heard that all the employees had a little badge.

Yeah, we all had a little key pin we could wear, not in the plant, you couldn't wear anything in the plant. You wore plastic pants on a string around your neck.

When did you stop working at Holston?

Well, I worked down there the first time, well, I was actually an employee of Holston Defense Corporation before I was transferred out of the pilot plant. All those people were transferred on to the Holston Defense Rolls.

Technically speaking, I guess that would be Holston Ordnance Works, right?

Right.

Defense Corporation didn't get going until . . .

Yeah, that's right, until later. Holston Ordnance Works about, I guess that first time was almost six years, involved the pilot plant and operation of Area B and then I came back to Eastman for some years and went back from 1950 to 1955. During the time the plant was operated during the Korean War, but most of the work we were doing then, was some pretty specialized work for AEC, it was not the mass production of the RDX and most of the RDX we had, we were recovering from war time composition B, extracting it with benzene and changing the form of it.

That was that Asian X, right?

That's a different compound from RDX. We had built a pilot plant for that during the wartime operation down there and we ran it pretty regularly and the AEC was just screaming for that, because it allowed them to decrease the size of the A bombs. Because of the power velocity that the [inaudible] gave and then we worked on special compositions for them, where we mixed it with nylon and all these things where you could mold it just like plastic. And of course during the war, sideline was a number of smaller operations would take RDX and make it into the C compositions, Composition C-1, C-2, C-3 and a lot of RDX went to that. But, we weren't actively involved in that, except to supply the RDX for it.

Was there any big difference between, let's say the first days of your work at Holston and at the end? Was there any difference in the way the plant was operated or managed?

Well, when you're in a big ordnance operation like that, of course, there's not much pipeline, those explosives were shipped out and used fast. The trauma at the end was just a speed of shut down that was required and the speed to which a department head like myself, had to cut employees fast to get them out of those labs, so that the overhead was not there anymore. Those were tough times and you spent almost all your time with adjustments of that time, how many personnel are we going to need left in the labs. We spent a lot of time in coordinating meetings and things like that and how fast the people had to go.

Did you ever hear anything about Defense Contractor profiteering during the war? It doesn't sound to me like Eastman was ever involved in anything like that.

I don't believe that Eastman were and I don't really know that we got held up on anything. We had such good service out of procurement, our priorities were so high, that we may have paid higher prices than we needed to for some things. But as I said, that tribute to efficiency of getting the price of our . . .

(End of Side One; Begin Side Two)

Yeah, it sounds like getting the price of RDX down to the price of TNT was quite an accomplishment.

It really was, because as I said, Britain had indicated willingness to pay \$1 for it. I don't have the exact figures, but it was about 10 percent of that before the war ended.

Well, we talked about the plant's safety record and the serious accidents that occurred, the few that did. What about minor accidents, were there a number of minor, common classic minor accidents?

You don't do lab work and production work like that without burns and things like that. We had a nice medical department down there. The doctors were very nice and the service was very good, had our ambulance and everything. And there were minor explosions of course at times down there, we had a few minor explosions over at the burning ground. When equipment had to be taken out of service and repaired, it was boiled in sodium hydroxide, strong sodium hydroxide solution to destroy RDX. But sometimes, there'd be a little bit in the weld that didn't get into quite, so you had to take that equipment to the burning ground and flash fire it, was like flame throwers, and there were pipes that exploded and valves that exploded and things like that. But, that was all done by remote control and behind barricades and never did produce any extremely serious accidents.

We talked about wearing safety glasses and smocks and things like that, was there any other special gear that was required for people to wear?

Well, you had to wear goggles everywhere, of course all the time. But, as it was at Eastman, if you wore prescription glasses, they would furnish prescription goggles for you, they had a local optometrist that came down and fitted those for everybody who had prescription goggles.

Were you required to wear that stuff in all areas of Holston or just the production areas?

Well, the lab certainly was, nobody came in our labs without that equipment on. And all of our lab people just went in, in the morning and just changed into it and kept it on all day.

Was there every anytime during your employment there that you felt it was unsafe at Holston?

Oh, I think that being a chemist, I had a healthy respect for what I was working for and I was aware that I was in danger sometimes, but it never did bother me. I just considered that part of the job description.

Did you ever hear anything from people in the community about feeling unsafe?

I think the newspapers here did a pretty good job on that, educating the people what was going on down there.

Do you have any idea what the average pay was for jobs outside of the plant?

Well, I don't know. In Kingsport all through that operation of course, Mead, Fiber and Paper ran their paper mill here and Kingsport Press, probably the largest independent book binder and press in the world operated all the time. So, there were other places to work here in the town. And I'm sure that the competition between those had something to do with this [inaudible].

Do you know if people were able to save a lot of money or a fair amount of money during World War II, as a result of working at Holston?

I would think that some of them could have done pretty well on that, buying E Bonds and all, where the man was already working and the wife took a job maybe. Because people in this area are generally very frugal.

I know of an operator and a man I admired a great deal, that worked as an operator in the [inaudible] pilot plant in Eastman for about 30 years, and never did spend any of his month paycheck. He lived on a little farm out here and his wife sold eggs, they grew a lot of vegetables, had a nice garden and the people are pretty frugal in this area.

Yeah, that's pretty remarkable. We've already gone through a lot of questions about the community, so it's not necessary to go through these all again.

The kind of times that we worked, didn't give us much time to worry about the community, I'll tell you that.

One of the questions here was, was there any gambling that went on in Kingsport? And I've had answers that range from no or don't know or yeah, there was a lot, but it was illegal. (Laughter)

I'd say very minimal really, that would be my estimation of the town as compared to other places where I've been.

Did the plant ever sponsor any local community recreational activities, like examples that are listed here are potlucks, dances, sports teams?

There was some of that and of course, we had softball teams that played in industrial softball league here in town and all and things like that.

Was there large scale temporary housing construction going on in Kingsport about that time or was it always a bottleneck?

Well, it was always a bottleneck, the need for housing though, the area, I don't know how familiar you are with Kingsport, but Carolina and those streets in there, Midland Drive off of Memorial Boulevard and all, that whole area right behind those apartment buildings there, was a beautiful 18 hole golf course. And it wasn't long before that was destroyed and they built those small speed brick houses in there for housing and that was taking place even while Eastman commandeered the Civic Auditorium here for offices in that early operation. I know the office that was in charge of that housing was there and they built those in a hurry and they were pretty good living for the people that took those. They were economical and though not prime housing, because they're not insulated very well, they're built out of that extra heavy speed brick, because they wasn't so much labor involved in it. But, they were adequate and people have kept those up and they're still on the market here and used, all of them. I don't know of a single one that's disappeared.

That speed brick, is that the kind of brick that's sort of like a cross between a regular size brick and a cinder block or something?

Yeah, it's about half way between and can be laid a lot faster and less mortar involved, less labor involved. And I imagine all of those bricks were made by the General Shell, that's a plant that was also active here at the time. A big cinder block and brick plant was operating here and a cement plant was operating in Kingsport at that time.

That was General Shell?

General Shell was the name of the block and brick plant, and it was always called the cement plant, I don't know what corporate organization ran that. Those kilns are still downtown, they don't run it anymore because of the dust problem got pretty bad in the downtown area and they pretty well shut it down.

Was there ever any problem with illness or epidemics during the war, as a result of extra people being here?

I don't think so at all.

What about water supplies and sewage disposal, any problems with that?

Really at that time, there was very little disposal here, we had a very adequate water supply through the Holston River here. Now there was a problem on the North Fork which meets the South Fork and goes right around Area B. Let me see who ran that, there was a [inaudible] plant over at Salt [inaudible], Virginia and I believe it was run by [inaudible], but I better leave the word out, the corporate identity might be wrong. It was one of those plants that was by electrolysis, they separated out materials. They used mercury as electrodes under there and there was so much mercury contamination in the North Fork of the river, that if you would go down there, if you drive down Netherland End Road and drive out on that little promontory by the bridge there where they fish now. You can see the big weir that we had to build to avoid getting any water into Holston out of the North Fork of the river. It was quite a technical problem because there was enough contamination in that, that we didn't dare get that into the explosives. We washed the RDX with water which was filtered, but it wasn't the kind of stuff you could get out by ordinary filtration, so there was quite a problem there. In fact, that's still a problem up at Salt [inaudible], Virginia there is still contamination in the ground up there in the form of mercury and other things, that the clean up would be prodigious, I'd say.

So, in other words, Holston's water intake would have been roughly right there where the two rivers came together?

Yeah, and you can see still today, the weir that was built to protect the Holston intake, the water intake from the North Fork.

So the weir was in the South Fork side or somewhere in that vicinity?

Yeah.

When was that weir added?

Well, it had to be done before operations started down there. See, up here all of our pilot operation, we were taking water, good filtered water straight out of the Holston River using it with no troubles at all. And then, strange chemicals things happened, we tried that water down there, we did an awful lot of water quality control work at that time.

How would you say the area has changed as a result of the war and Holston being here?

Well, I think the population increase included a lot of, it's hard to put a word to it, maybe a little bit more sophisticated people and educated people than had been here before, maybe a little higher percentage. And I think, that the city was just going through a growing up process during those years. I don't feel it was radical and never was a concern of mine. I've enjoyed Kingsport the whole time I've been here.

What about any kind of tension between, let's say pulling people from an agriculture life into a plant environment or an industrial setting, did that lead to any kind of problems at all?

No. That would have been a problem that Eastman would face all the time, and they liked the kind of people they got here as work force for the general labor force. I felt they were very high quality, conscientious people as a general rule.

Out of curiosity, was there a curfew in town during the war?

I don't remember. When I got off work, I fell in bed and slept, hoping I could get a good night sleep before I had to go back or get a call to go back again. In the lab there, I was tied into all the safety investigations and all, my training at Cornell had made me what they considered an expert in microscopy and I could look at suspect samples of RDX and give a pretty good estimate of whether or not it was sensitive or dangerous to handle. So, I got called down there many, many times at night when I was off work supposedly. But, I don't know that there was a curfew in Kingsport. The town was dry for one thing, anybody that wanted hard liquor had to drive Gage City to get it. There was quite an entourage over there a lot of the time.

In fact, I think a lot of people I've asked that question to they seem to intimate they don't remember or they didn't think there ever was one unless there was maybe one in the very beginning of the war.

I don't believe there was one, most people here knew what their business was and kept their nose to the grindstone pretty well, I believe.

Did the attitude toward Holston change any as a result of some of the later wars, like Korea or Vietnam?

Well, I didn't notice any. The operation was much more limited in a different type, more technically oriented during the Korean War since we were working more with the Atomic Energy Commission at the time on the development of their materials and the development of new materials from the old RDX which was stored down there in those magazines.

And I would guess one of the questions here is, would you say that most of the women that worked at the plant, had they ever worked outside the home before they came to work at the plant?

I'd say a majority of them had not and that's a guess, purely a guess.

And do you know if they kept on working at industrial type work after the war or did most of them just go back to their lives?

I really don't know. I'm sure that so many lost their production force, caused so many to be out of work, I'm sure that jobs weren't available for all of them at that time. Many of them were probably glad to go back to the easier housework and all on the farm. They used a lot of women for truck drivers down there inside the plant, transportation of explosives and delivery of chemicals and all.

Do you ever remember hearing about any complaints or anything that Holston preferred to hire certain people over other people?

No, I don't think so. I think everybody that went down there, or that put in a resume was considered.

How did they determine who stayed on and who left when the plant went on standby after the war?

Well, Eastman had a fine system there. They had a performance rating system and a factor based on time on the job and your grades on performance were instrumental in saying who stayed and who did not stay.

Did the presence of the plant here at Kingsport make the war seem more like a real event to those who were living in the area?

There wasn't any question on the people who worked at Holston that the war was real. In fact, those little demonstrations we gave could be heard all over the plant, you could hear that booming going on up there.

We had to call the administration building and tell them we were giving one within about ten minutes before every time, because [inaudible] pretty well up there at the administration building.

Was there any problem with race relations during the operation of the plant? In other words, were there any regulations prohibiting discriminatory practices and then it mentions here the Fair Employment Practices Committee, which I guess, was probably some federal thing to watch . . .

I didn't never hear of any problems along that line.

Were there any posters that were put up to prohibit that sort of thing? It doesn't sound like it was much of, you know . . .

I don't think it was, there were quite a few posters of you know, typical war time posters, wear it out, use it up, all that kind of thing.

Somebody talks, somebody dies or something?

Yeah, we had a lot of those around. There was a lot of curiosity on the part of people living in the area, security was fairly tight and I think people were pretty tight lipped about talking about the plant down there. There was one man hired in down there at this job sent him down and out, fitted him with his coveralls and he went down to the change house and put on his clothes and they took him down to one of those incorporation buildings and they took him in there where they were opening those 50 pound boxes of TNT [inaudible] and he said is that TNT, and they said that is TNT. And he said, I ain't working here no more and he walked right out and went back and left his clothes (laughter) and went up and lost his job.

He didn't want any part of it, I guess that was it. I think that pretty well covers all the questions we've got here. The final question they have here is, do you think, and do some people think, that the plant should be permanently closed at this point or should it remain open? Or do you have any feedback on that at all?

I haven't had any feedback on that, my personal opinion is it would be a terrific mistake not to have the capability of that plant, as long as there's trouble in the world. And the technical know how of the people here to operate it.

Frankly, I'd probably tend to agree you with on that, since they got the facilities here all ready.

Yeah, and it's the kind of facility when you think about it, there's probably not enough stainless steel production in the world to build that plant in a year now. Stainless steel's got a lot of chromium and other elements in it that are so hard to come by and that thing's got an awful lot of stainless steel equipment in it and a lot of specialized equipment. All the bearings and motors and pumps are a little bit different style in order to give safety to the handling of the explosives and all and it was amazingly successful operation in that respect. There were a few pumps that exploded down there where a cake of RDX would get caught between the impeller and the housing and a little hole outside of the pump, but nobody was ever close enough around to get hurt. That happened lots of times.

A lot of equipment there would be considered antiquated by today's standards.

Yeah, you hesitate to change equipment when you know the safety record is there and the capacity for reducing millions of pounds is there.

Yeah, that's the thing about that steam plant, I've had people tell me let's go ahead and keep that thing there because at least it works.

Yeah, and also there's a steam generating plant for Area A and Area B.

Yeah, I think 200 for Area B.

And those stacks should be a lot taller and the boiler equipment in there is pretty antiquated, I'd say Eastman would replace it. If it were Eastman equipment, it would have been replaced a long time ago.

Out of curiosity, and we can talk about this off the record if you would rather. I've got the recorder going, but my basic attitude is, let's go ahead and go talk about it if you want. What's the basic relationship between Eastman and Holston now?

Well, I'm really not up on that. My years of retirement have taken me out of circulation pretty much, as far as the plant goes. I know there's an Advisory Committee based with people at Eastman, with a lot of Holston experience, that meets regularly with the management of Holston. I think there's a good exchange of information both ways.

Well, I think that covers all the things I can think of.

Very good, I hope it's been helpful.

Yeah, I think so.

One little interesting side light that's come to mind, when the plant at Area A was first built and Area B, the weak acid had to be brought up here to Area A, which was approximately 35 percent acetic acid, balance, most of the balance being water, a little bit of ammonium nitrate and few strangers in there, acid [inaudible] and a few things like that, a few by products. But, there weren't enough tank cars to haul that stuff, so I was assigned to duty to go up to Cincinnati and visit the Heinz Pickle Company and buy some surplus acetic acid cars, vinegar cars, really, which would handle 35 percent acetic acid. So, we bought a whole string of acid cars, of course later, the pipeline was built and that solved one of our problems. See, there's a pipeline for weak acid from Area A now and a pipeline for acetic anhydride [inaudible], side by side down there. I've always worried about the fact, that if anybody knew it, there's not enough security around that pipeline, it just runs down the railroad down there. One misplaced bullet could really shut that plant down. That's wide open to the public. There's not one person in 50,000 that knows what those two pipes have in them.

Yeah, that's probably true and I'd imagine most people aren't even aware they're there.

It just looks like ordinary steam lines. Out at Eastman, people are used to seeing all the lines out there, millions of lines, so, not a real problem. It's worried me a little bit that it would be a very vulnerable spot. We did, I don't know whether anybody's gotten into it or not, but we did have that security breach out there through the, oh, those names don't come to me right now. But it was in Time and everything about a sample of RDX was taken out there.

Yeah, Slack I think.

Slack, Alfred Dean Slack, his father transferred down here from Rochester and operated that corrosion lab down there. And then he came down later . . .

The son?

The young Slack, the older Slack was a fine guy, I knew him quite well, because I helped set up that lab and supervise part of the work.

It was the younger Slack that . . .

The younger Slack is the one that gave the Golds or whatever they were, I can't think of their name, a sample of RDX. Not that it made any difference really, I think that was highly over blown, there wasn't really much to that. There was enough intelligence around, I'm sure that they knew there was an RDX plant here.

I would think so, in fact, I have no idea if the Soviets had that kind of technology or not. I would guess they probably they did not.

In fact, this plant and Y-12, I saw the bombing priority chart that they had, and we were both on it, Holston and Y-12 at Oak Ridge were the purified uranium during the Cold War period. But, we were so far inland that we were very fortunate there.

I heard that was one reason why they decided they were going to put ordnance plants where they did, was they wanted it pretty much between the Appalachian Mountains on the East and the Rocky Mountains on the West and about 200 miles inland from either.

I think that's about right. When you think about it, all the ones I visited, and boy I visited a lot of them, they're located about that way.

It seems like most of them are located either in the Midwest or in the upper South and the big exception being Texas, there's quite a number in Texas, [inaudible] for political reasons.

We shipped a lot of RDX and comp B to Lone Star and drove by there just the other day, they loaded a lot of shells and bombs and things with it down there. In fact, there was a plant at one time, better cut that off.

(End of Tape)

MELVIN JOHNSON
September 27, 1995
Kingsport, Tennessee
Mark Swanson, Interviewer

Just for the record if you would just state your name and when you were born.

This is Melvin Johnson speaking. I live at [inaudible] Netherland Lane, Box 1, Kingsport, Tennessee. I'm 73 years old and I worked at Holston Ordnance during the war from 1943 to 1945 and then went to Eastman and then came back to start the place up in 1949 and worked four more years until 1953, at which time I went back to Eastman.

Where were you when you heard the plant was going get established?

I was going to Michigan Tech at (Houghton?), Michigan at the time and I had applied for a job, I was a chemical engineering senior and this was 1943 and I had applied for a job at Eastman Kodak, which was normal for graduates of Michigan Tech. And of course the war was in full swing and I was very fortunate to be able to stay and get deferments in order to finish college. So I got an answer back from Kodak but they didn't offer me a job at Rochester. They had sent my application to Kingsport, Tennessee, to Bob Burton. And they told me that any communication would be with Bob Burton from then on, he was Production Superintendent at Holston Ordnance at the time. So I got a job offer. Course it wasn't done personal interview, it was all done by mail back then because there were so few graduates that there were no recruiting of jobs or engineers to different companies, because there were so few graduates available. And so I got this offer of a job from Holston Ordnance and I thought well, and all they would tell me, they were going to offer me ninety cents an hour and they were making explosives and that Holston Ordnance was a subsidiary of the Tennessee Eastman Company and that's all they could tell me. If I wanted the job to let them know. And so, I thought well, you know, it'll be something for the war effort if I come down here to work and then, I guess it was my intent after that to maybe go back, go to Rochester to the main plant afterwards thinking I'd get my foot in the door working here, and then I'd have some leverage to get a job after the war. But of course it didn't work out that way. By the time the war ended in 1945 then I was well known by that time and Dr. (Davie?) knew my work and so they offered me a job at the main plant of Tennessee Eastman. And so I was tickled to death to stay.

So you've already mentioned how much you were getting paid.

Yeah, ninety cents an hour. With overtime it amounted to about \$200 a month, \$199 or something a month. And that was about the pay for a 2nd Lieutenant in the Army, that's about what they were paying without . . . no, they were paying about \$175. Of course they didn't get any overtime (laughter) in the Army. (Laughter).

It's a salary job there (laughter). How did that compare with the pay over at Eastman?

It was just a little bit higher because this was considered sort of like combat pay down here, they, all the plant role job brackets were a nickel higher than they were for comparable work at Eastman. Nickel an hour higher.

You might not know the answer to this since you moved down to the area, but were you familiar or aware of land values before the plant was constructed?

No, no I wasn't. Of course I was single so I wasn't in the market for buying a house or lot to build on because I was single, so no I . . . you see the plant was, at the time I came in September of 1943 there were already at least five maybe six lines already in production. So the tremendous influx of people that had come earlier to build the plant was already over with. Now there were still a lot of operators of course, the plant was hiring every day to staff the rest of the production lines. But I wasn't here when the initial influx of people just poured in. See there were as many as 20,000 construction workers here at the peak. And when I took the job down here I didn't know anything about Kingsport or Tennessee Eastman, I'd never heard of either one. Well the first thing I did went and looked up the atlas to see what the census said about Kingsport in 19 . . . of course the earliest one . . . the latest one I had then was 1940. At that time there were 12,000 people here. Well when I got here in 1943 there was something like 30,000 people, maybe 25,000 because it was down from the peak. So everybody was renting rooms to people, I mean even the elite people in Kingsport were renting rooms to people. I remember hearing not too long ago this doctor's wife told me that they had a spare room, they had build their home a couple of years earlier and they had a spare room upstairs but it wasn't finished. And so the people that were finding places to stay for all these workers had called this doctor and said do you have any spare rooms and he said well yes and no. We have a room upstairs but it's not finished. They said get it finished. And as soon as it was finished it was rented.

How much did they rent rooms for like that?

Well, I found a room on Watagua St., which is the nicer section of town and still is a nice section of town, but at that time it was the place to live and I found a room there and they were charging \$30 a month, a \$1 a day. Of course I was only making \$200 so that was a big chunk of my salary.

Yeah, I guess that's true, yeah that is pretty big. Was that fairly typical for rent?

Yeah, yeah.

Was there a lot of new construction that was going on in Kingsport about then or . . . ?

Yes, you see there were a lot of speed brick homes being built for . . . I don't know if they intended them to be temporary or not, but places like Cherokee Village and houses on Carolina, at that time it was called Carolina, and (Pianola?) and Woodside Ave., those were all speed brick houses, four room houses, they were slapped up in a hurry to provide places for people to live.

What about like water facilities, sewerage facilities, in Kingsport. Was that a problem with the overextension?

Not that I know of, I don't know that. Of course as far as Holston was concerned they had their own water filtration plant and, now not sewerage treatment, no, the sewerage was pumped back to the sewerage disposal plant for the city, but all the other sewers of course were discharged into the river.

When you moved to Kingsport did you have any friends or relations in the area?

None, none, I didn't know a soul south of Chicago.

Okay, that was definitely a switch.

I was a damn Yankee too (laughter).

After you moved and all that did any friends and family join you in Kingsport or . . . ?

I have a younger brother, six years younger than I am, and so he also went to Michigan Tech and, now he got out then in 1949, well 1949 was, either '48 or '49. We were in kind of a recession. This was just before the Korean War started in 1949. So he was also a chemical engineering graduate from Michigan Tech and he had trouble finding a job. And he kept asking me to, you know, put in a good word for him with Tennessee Eastman because he had applied, I had gotten an application for him and sent it in. And they had written back saying you know they didn't have anything at the moment. So he called me one, or, he'd written to me and he said will you try one more time, because he knew I was being a pest to keep pestering people at Eastman for a job. So I called the fellow who I'd been in contact with and he was out of town and, but his secretary knew me personally and she said, "Melvin, I was suppose to call you this morning." I said, "Oh is that right?" She said, "Yes, my boss told me to call you and tell you that we had sent your brother request to come down here for an interview." Well I knew then, that was tantamount to getting a job, they didn't bring people down from Upper Michigan to, unless they were pretty serious about giving him a job, so then he joined me down here and of course we were both at Eastman at the time. He had never, he's never worked down here.

We've already talked some about what it was like when you first moved here to Kingsport, like housing and availability. What about food, was that fairly easy to come by or . . . ?

Well, there weren't all that many restaurants, but there were boarding houses available, several. And so I didn't have any trouble finding food to eat, you know, and I don't know how much you're interested in personal affairs of mine, but after I'd been at this home on Watagua St. for five weeks, or four weeks, I found out that you could stay at the fire hall, the local fire hall for free as a volunteer. And all they expected you to do was to be there three nights a week and then if you were called out on a fire, well you know you'd be there, you had to be there. There were two regular firemen there who drove the truck and knew what to do, but we were just to go along and help where we could. So we could stay there for free. Well that was \$30 a month more in my pocket and they paid me \$2 an hour all the time we were out fighting fires. So I asked this fellow, there were six of us, six volunteers, and I asked this fellow, who later become a good friend of mine, I said how many fires do you have a month. He said, oh our pay check runs maybe \$12, \$14 a month, we have maybe five or six calls a month. Well I must have been the jinx or something because we had seven calls in six nights. Now, you say well so what, yeah but I couldn't get back to sleep. Now you ride the fire truck at 2:00 in the morning with the siren wide open, it'll wake you up in a hurry. And then when you came back I couldn't go back to sleep. Now the other guys they were old hands at this and they could lay down and they'd be snoring in nothing flat. But after about a week of that I was about dead, and I thought I don't know if I'm going to be able to stand this or not. But in two weeks I could do just like they did, fall asleep just like they did. So that was a big boost in salary for me, just to be able to live at the fire hall. So that got me on my feet financially and so I stayed there a little over a year I guess and then this friend of mine that I mentioned and I moved to a private home, they were still offering it. Now there are no boarding houses any more in Kingsport that I know of, I don't know of a one. But there were several back then. And of course we had to turn over our food stamps to the lady of the house so that she could buy meat and food that she was entitled to because she was feeding us.

Now did she get all of your food stamps or . . . ?

Oh yeah, oh yeah.

Was that a problem. I know they had gas rationing and food stamps and . . .

Oh yeah. And you know the government had decreed meatless Tuesdays and stuff like that you know, oh yeah.

What about back in those days entertainment?

Well movies were about the only, and of course you had your radio. But as far as going anywhere, and that's something else, the fire hall, it's been torn down now, but it was on Watagua St. just two blocks up from the circle, and so if you were going to go anywhere you walked, because none of us had cars. And we didn't have any money, but there was no gas and you couldn't buy a car anyway. And so if you were going to date anybody you had to walk. And so you dated a girl (laughter) that was near downtown area so that you wouldn't have to walk so far (laughter). So entertainment was going to the movies and there were, of course they changed, there were three at that time, there were two theaters that you didn't mind going to. There were two others that were flea traps, but two of them were respectable theaters.

How much did movies cost back then?

I don't really remember.

Just from what my parents have told me I would say it was like a nickel or a dime, is that . . . ?

No, that, yeah Sunday, Saturday afternoon matinees for the kids back in 1940, it was a dime, yeah. But the evening shows were more, it was probably fifty cents.

What about, what was the average salary like in Kingsport back in those days?

I really have no idea.

From what you heard do you remember whether Holston was comparable to that or was that considered better pay . . .

It was a little bit better pay, yeah, little bit better pay.

I don't know if you would know this because you came in after construction was already going on, but what was the reaction of most people in the area to the fact that Holston was coming in here?

I really can't respond to that, because I just don't know.

Did it seem like most people were happy to have Holston here?

I never heard any adverse comment, let me put it that way. I'm sure the businessmen were happy because it meant a whole lot of business for them. You know there were wholesalers in town that became wealthy with all the equipment funneling through their wholesale establishment. Like General Electric and companies like that would funnel all their equipment through the wholesaler and then he would get his cut out of it you know, so . . .

I imagine there were a lot of businesses that made [inaudible] made out pretty good.

Oh yes.

Do you know of any in particular that seemed to do really well?

No, no.

Okay, I've got a number of questions here that deal with construction and I guess you probably don't know those but I'll . . .

Well, you know it's an amazing story about Holston getting built in the length of time it was taken to do it. You've got to realize that the steel mills were running at capacity and they were furnishing steel for tanks, guns, shells and yet Eastman had to get their material to build the plant with. Fortunately we had a cement plant here and we had a brickyard here.

In Kingsport?

In Kingsport. So they could get their own bricks and mortar and cement here. Steel was a problem of course, but somehow or another they managed to get a high enough priority from the government so that they were able to get it. But (conversation paused). You know on June 6, 1942 Eastman got the go ahead to build the main plant and construction began the same month, June of '42. And line one started April 29, 1943. Now that's a little bit less than a year. Now you've been down in the area and you see what had to be done to get the place built. So it's an amazing accomplishment.

Yeah, from a number of points of view, I mean just from construction point of view but also from I would think an engineering point of view, because when you look at all the different, you know this has to go into this and this has to go into this and this has to go here.

But they had already done the engineering before this approval was given. So a lot of the engineering was already done. And, but you know they had to build a box plant to put the product in because it was all shipped in wooden boxes. Now they ship it in cardboard boxes, strap it. They had to have nailing machines to nail the wooden boxes together. They had to have a filter plant, fire department, all the services, and a steam plant. Had to build a nitric acid area, and those people that ran that came from Rochester, because Rochester had a nitric acid plant, small though it was. They had some experience with nitric acid and so they came here from Rochester. Area A had to be built separately. Of course you can see the brick work up there and so you know where those bricks came from.

I remember I was asking somebody once about why they didn't just use lumber instead of all the brick stuff they did and somebody else mentioned well they had a brick plant right here and got a deal on bricks and so they just used . . .

And you know there were an awful lot of wood construction, of course the office building and stuff like that. And the walkways between incorporation buildings were all wood. Well, you know after four years and termites they were all about to fall down and so it's a good thing the war ended when it did because you know there was going to be, have to be an awful lot of rebuilding done. The nitric acid area was just hanging together by a thread and I worked down there the last six months before the war ended on a pilot plant operation down there and I'm telling you it was something else, but it held together long enough to get the war over with.

I suppose you probably, you may have heard some things about what was going on during the construction phase and I'll go ahead, I'll ask these anyway, if you don't know them that's fine. Do you know what the conditions were like at the construction site?

(Laughter) a sea of mud. (Laughter)

That's the impression I've gotten [inaudible].

Yeah, but of course that was pretty much over with when I got here.

What did they do to combat that, did they just pour a bunch of gravel in there and stuff?

Yeah. But you know all the sewers had to be laid, and pipelines by the mile. Instruments had to be bought and, now the instruments at that time were the latest thing of course that we could get. And now of course they would be very crude and obsolete, chemical plants don't even use the same kind of instruments that we had then.

What about as far as you know was there a work camp set up in Area B at all or were the people expected to just come in and commute, either from Kingsport or from further away? Did they have anything like . . .

You mean like they'd stay here during the week and then go home on the week-ends? No, no, as far as I know that wasn't done. There were like, at shift change time there might have been as many as 40 or 50 buses pulled in down here at the transfer station. Then they'd walk through and clock in and get on the other [inaudible] buses on the other side. And then they would take them to the different . . .

These buildings you're talking about, are those the ones we passed by this morning when we drove in through the gate, between here and building six?

Yeah, I guess it's pretty much been changed, but yeah.

I think now it's maybe an orientation building or something, but it looks like it's set up for a lot of cars, a lot of vehicles.

So of course all the people were taken to their change houses or their lockers and as far as I know they were wood lockers.

What kind of shifts did people have, was it eight hour shifts?

Eight hour shifts. And of course the shift schedules were identical with Eastman, they were borrowed from Eastman, because it was Eastman people that came down here, you know the foreman, the supervisors and department heads and division heads. Eastman had a wonderful array of work schedules. They had a 48 hour schedule, which would mean everybody was getting 48 hours a week. They had a 40 hour schedule, a 42 hour schedule, a 44 hour schedule, whatever you wanted to work, they had scheduled for it. Of course, they were paid overtime, anything over 40 hours. Anything over eight hours a day was overtime.

That sounds like somebody made some money then, or the potential for making money was there.

Oh yeah. Of course now in the early construction days, no let me back up, earlier than the construction started, when they were running the pilot plant, you know where Wexler(?) Bend is?

Yeah, Wexler(?) Bend and Horse Creek and . . .

Okay. Now there were people both operators and supervision that they would just stay out there, night and day. And they wouldn't, they'd sleep for three hours and then as soon as they'd wake up they'd be right back on the job again. Their families might not see them for a week. And that wasn't at all unusual to be happening.

Yeah, I heard about that. In fact I think that Mr. Collins, who I talked to yesterday, said he worked there at Wexler(?) Bend and I think . . .

Mister who?

Mr. Collins.

Collins? Henry Collins.

Yeah, right.

Yeah, I know him.

And he said it was pretty hectic in that first year, you know they did a lot of work.

Oh yeah, And of course they were all young at the time, not much older than I was. They were like five years older than I was. I guess Henry is around 80 right now.

What kind of people worked at the plant, was it mostly locals from around here, did they import a lot of people from . . . ?

They took everybody they could get if they were physically able and of course that was, the big labor force was women. And none of them had ever worked in a chemical plant or an explosive plant before. But they were trained and with our safety record the training evidently was well done, because we never lost anybody as far as an explosion was concerned. We had three fatalities. One was a fall and the other one was, one other was over in the primary dissolution where the, he had made a mistake and scalding liquid came out of the tank and gushed right over him and scalded him, he later died. The third one was carbon monoxide poisoning. They sent the locomotive to Philadelphia for overall, it was wintertime, and they put a kerosene heater in the cab with him and he didn't open the windows and he was dead when he got there.

That's pretty remarkable considering what happened at other ordnance places around the country.

Yeah, yeah.

But as far as you know did people all get along here at Holston, without any problem with . . . ?

Resentment you mean?

Yeah, the result of people coming in and taking . . . jobs from locals and . . . ?

No, considering I was a Yankee I was really well received when I came here. As I said I was single and really Kingsport took me in like I was one of their own, it was remarkable. So after the war was over I was tickled to death to stay. I loved the climate, I loved the city, liked the people and I liked my job.

What about, did they have many minorities that worked here at Holston during the war?

No, you see at that time minorities were limited to janitor work and cafeterias and stuff like that, so they were put to work in that but they were not put out in the plant as production workers or laboratory work. I don't remember seeing any minorities as laboratory workers either. But they were hired. Now I can't speak for maintenance work or like ditching, digging ditches or stuff like that, I can't say for that, but that's the extent of the employment they had as far as I know.

What about other minorities, I assume you were talking about Blacks?

Well, there just aren't any here at that time. Now there are plenty of Orientals here now and Hispanics, but not then.

What was, we've already talked about this somewhat, but you know what did most people do during their free time, what little there was of it? You mentioned movies and that kind of stuff . . .

About all, because they didn't have gasoline to run around the countryside to sightsee you know, and they were pretty well confined. It had to be entertainment that they generated in their own home or movies. There were local entertainment groups, now there weren't any drama groups at that time. There are several here in town now, but not then. But there were home talent shows, the Kiwanis Club always put on a home talent show once a year, that was their fund raising. I used to sing in that years ago, when I first came here. And so, the schools, the PTA's put on home town shows, but other than that that's about all.

How did the area change during the Second World War, was there like as far as business, housing or even crime? Was that more of a problem by the end of the war than it was in the earlier years?

Well, since I wasn't here living during the time before the war I really can't, I don't have any knowledge of that. Henry Collins grew up here so . . .

Yeah, I'm sure I asked him that question and I think he implied it really didn't make that much of a difference. Now again you may not know this one either but I'll ask it anyway, what was the transition from construction to production, was it a smooth one as far as you know, from what you heard?

Yeah, because it all didn't happen at the same date. As I said line one started first. Now I'm sure that some of the, of course a lot of the construction workers were imported from other places that had skills that were not residents here and didn't intend to stay. But a lot of the construction workers, I'm sure, were local people and as they, the need for them became not needed any more, I suppose some of those were put in as operators. But an awful lot of the operating force was women, especially in the incorporation area.

I think that's where Mr. Collins was working in particular. He said there were more women working there than there were in the actual RDX production lines.

Well for one thing it was a more labor intensive operation, more hand work, like shoveling the RDX into the kettles and putting the stuff in boxes by hand, have a chute and you'd just open a lever and the stuff would fall in the box, and that was all done by hand. And you'd be surprised the way those women handled those fifty pound boxes, that didn't phase them.

Going back to the production era, when you first came to work here, how did you first hear about working here at Holston?

Well that was when I got the job offer from Bob Burton. See I had no idea there was any explosive plant here or Tennessee Eastman either one, I had never heard of either one.

Oh okay, so they contacted you then?

Right, well through Rochester.

Before you started your work at this particular plant, what did you think working here was going to be like?

Well, I was looking forward to it, of course, to earn my own money and to, cause I was totally dependent on my folks before, so I was anxious to get on my own, start making my own money. And, yeah, I was apprehensive you know, on my first job, never having worked in a chemical plant before and yet when you're young you have confidence that you're going to be all right. There were a lot of things that were so different than what I had thought. For one thing, in college chemistry labs 100 percent nitric acid is unknown. They have what they call fuming nitric acid and it fumes like it says. But the concentration is

about 67 percent and that's the highest nitric acid you ever see in a chemical lab in a college. It may be different now but when I went. When I got down here the nitric acid plant was making three hundred tons a day of 100 percent nitric acid and, you know, here I was talking about a laboratory curiosity, 100 percent acid was unbelievable.

Were there other like little chemical processes that were unusual or unexpected?

Well of course you study nitration process in college chemistry, which is what this was, this was a nitration process, so . . . Incidentally, I had taken a course in explosives in college, not knowing I was going to work in an explosive plant, but I had to have so many electives and so I thought, well that might be interesting so I'll just sign up for that and so I had actually seen a little bit of hexamine and the final product before I ever got here.

Isn't hexamine like the combination of formaldehyde and ammonia?

Ah-huh, yeah, that's right.

What other uses is hexamine put to?

I don't really know. Well, and I'm not familiar, but it would be an intermediate to make other organic chemicals.

By itself it probably doesn't have that many uses.

Doesn't have that many uses.

Had you ever heard of RDX before you got here?

No.

It was your impression that nobody else had heard of it either. As I understand it it was suppose to have been pretty much of a big secret.

Yeah. The usual comment was what does RDX stand for and the usual answer was none of your damn business. (Laughter).

Yeah, I read about it a lot before I found out what it actually did stand for, Research Department Explosives, I think . . .

And then of course on top of everything else, they'd just barely got the plant running and then the government wanted them to help out with Oak Ridge, the Manhattan Project. And so they had to rob people, and they were already stretched to the limit with supervision, supervisory people. And of course none of us knew what Oak Ridge was about, but you know at times you'd be working along side of somebody and all of a sudden he didn't show up any more. And so later on you'd find out well he's gone to Oak Ridge. But of course that might be sometime later. We heard all kinds of stories about what was going on at, we thought it might be some super fuel that they'd be working on but we didn't know. But I remember hearing that, about these tremendous magnets that they had at Oak Ridge, they were just so powerful it was beyond imagination and like, people would come back and they'd say that a fellow would walk by and they'd jerk the wrench right out of his hand, you know the magnet would be so powerful. Or a car would drive by, just outside the fence, and it'd pull the car right through the fence into the building. Well of course they were not true but they were, they made good stories. But of course there was a certain amount of truth. Eastman was running the electromagnetic process so they did have these tremendous magnets.

Yeah I'd heard, from what little bit I know about what was going on at Oak Ridge or Eastman's function, it was, that they, it was a tremendous user of electricity. They had to have a special contract with TVA and TVA was not told what the purpose of it was, they thought it was, I mean they gave it some kind of, I've forgotten what they called it now, Clinton Engineering Works or something like that.

Yeah, that's right, Clinton Engineering Works.

And they just started, said we're going to be using a lot of electricity and . . .

See they didn't even tell Congress. Congress didn't know. And you know they kept funneling money there and they began to wonder what in the world, you know, pretty soon we're not going to be able to get the money out of Congress.

Out of curiosity why did they elect to have Eastman involved in that?

Well, I don't really know, but I would presume that they had done such a tremendous job with RDX production that they were the logical, one of the ones to . . .

I remember there was some comment that one general made right after the war and he said that one thing we learned in ordnance work during the war is that it didn't really make any difference if the company involved had any prior experience in what they were making, but we did look for cohesiveness in the company, integrity and things like that. If they are a viable firm and they work well, they can work at anything, they can just go ahead and make it. So they said they weren't that concerned that . . .

Well, Eastman surely didn't seek it out, they didn't want it, but . . .

Yeah, I think it was the same pretty much with this.

Oh no they didn't. And you know the initial contact, the first contact, was made in November of 1941 and that's when Mr. Connors of NDRC called (Pearlie?) Wilcox and asked him if they would consider concentrating acetic acid from an explosive plant. And you know that was an innocuous request, you know, sure well to, even at that Mr. Wilcox was dubious about wanting to get involved, but he finally did. Four days later the drums of acetic acid showed up, that's how urgent it was, four days later. And I remember one of my friends was working, they had taken it to CE Division, and I remember one of my friends was asked to open the drums up and . . . so acetic acid, everybody was familiar with acetic acid. What they didn't tell them was that there was RDX dissolved in the acetic acid. Of course they'd never seen any before and they got down, they poured the stuff out of the drum, it was a stainless steel drum, poured the stuff out of the drum and they got down to the dregs in the bottom of the drum and here was this white crystalline stuff. Well now they knew they had something, they knew they had some RDX. And so they filtered it off and washed it and carefully dried it, they had sense enough to not put it on open flame to dry it (laughter), they put it in a steam oven where the temperature can't get above 104 degrees or something like that [inaudible]. Well anyway they dried the stuff, they had about a teaspoonful. So they said let's take it out in the shop and see how sensitive it is. So they poured a little bit on the anvil, on the steel anvil, and there were two fellows, they were both friends of mine, one of them said I'll lay the hammer down and then you hit the hammer, you know after I lay it down, and then we'll see how hard we have to hit it for it to go off. When they just laid the hammer on it it went off (laughter). They didn't even have to hit it. What they didn't know was that recrystallizing RDX out of a poor solvent, like acetic acid is a poor solvent, it comes out in the sensitive form. But they didn't know that at the time, all that technology came later. Because if they had recrystallized it from acetone or from cyclohexanone(?) or some other solvents it wouldn't have been that sensitive.

I guess that's the reason why they had never used RDX in earlier years as an explosive because they couldn't control it that well?

Well, yeah. It was extremely expensive to make because of the tremendous quantities of nitric acid that was used and then they had to recover the acid from it. Since Eastman knew how to do that it made them the logical ones to run the plant.

What areas of what building did you work in when you worked at Holston?

Well I was assigned to developing department, research and development department in Building 8, and Lee (Davie?) was the division superintendent and so Dr. MacNaughton, does that name mean anything to you?

I think I've heard of him before, but I couldn't tell you why.

Well, strangely enough, I had a cousin, [inaudible], who went to the University of Michigan and he was getting his doctorate . . .

He worked with Dr. Bachman right?

That's right. And my cousin Oliver Johnson was getting, he was a research assistant at the University of Michigan, and his field was physical chemistry rather than organic chemistry, but nevertheless, he was assigned to work with Bachman and so was Bill MacNaughton. Now Oliver went on, oh yeah and Oliver was involved when they ran the experiment under the stadium, my cousin was involved, under the Chicago stadium, when they first started the atomic bomb. Well, nobody knew my cousin was involved with that but he was, and, but Oliver stayed on and after Bill got his doctorate degree then he came down here to work for, with NDRC. So he was not a Holston Ordnance, he was not an Eastman employee when he first came down here to work, he was still working for the government. And then finally he transferred and became an employee of Holston Ordnance. And so to get back to what we were doing, I was working with Dr. MacNaughton and others. We had our own reactor in the lab and it was very carefully controlled and we measured everything to the tenth of a gram and so we were constantly working on how can we increase the yield, get more stuff, because they set the reactors down in the plant by what we told them, the concentration of acetic acid and the hexamine or the concentration of the anhydride.

All of this going on in the D buildings, right, the nitration stuff?

Yeah. Then I worked there the whole time except for the last . . .

(End of Side One; Begin Side Two)

all during the war except for the last six months then I was . . .

And that was like the main lab building wasn't it?

Yes it was, that was the main research and lab building. John English had been doing some experimental work with concentrating nitric acid by an entirely different process than what was common all over the countryside. And the way they use to concentrate nitric acid was they'd mix it with sulfuric acid, there'd be nitric acid, water and sulfuric acid. And they'd mix the three together, or the two components together and the sulfuric acid would grab on to the water and then you could distill off the strong 100 percent nitric acid. Now you had to take the water out of the sulfuric acid by boiling it. And so it was, corrosion, you wouldn't believe the corrosion they had. And so anyway John English had been working on a separate,

entirely new process and what he had found out was that you could take metallic nitrates like magnesium nitrate, calcium nitrate, aluminum nitrate and others that formed water hydration in their crystalline form and if you'd mix that stuff and melt it and you could put weak nitric acid in that mixture and distill off the acid and it would come out strong, you could distill it off and finally get 100 percent acid. But you didn't have all the corrosion problems that you had with sulfuric acid and all the others, yeah you had [inaudible] part of the nitric acid because, but not with sulfuric acid. So they got permission from the government to build a small pilot plant down there and so I was assigned to work one of the shifts, there were two, I was assigned mostly to the 3:00 to 11:00 shift I think, yeah, yeah, Tom (Currey?) had the graveyard shift and Bob Ross had the day shift. And of course there was no time off, we, the only days, if I'd come in to work at 3:00 and the plant would be down for maintenance they'd say you can go home, this is your day off, you know I was already there then, but this would be my day off. So we stuck with it and found, took basic data what was necessary to run the plant and we made some strong acid, we didn't, we had a lot of maintenance problems but you would expect that. So the big plant that's down there now is the direct result of the basic work we did with concentrate nitric acid back in 1945. So it was developed into a commercial process finally.

So correct me if I'm wrong, that was the pilot plant they did in [inaudible], because I've heard reference to it.

Okay. And I was one of the ones that . . . in fact I had done a lot of lab work before we ever went down there because we weren't at all sure what the best metallic nitrate was to use, so I experimented for weeks with all the metallic nitrates that I could get from Eastman Research Labs (laughter), call up there and say what else have you got in the storeroom.

What would have been a typical day, your typical day here at Holston, if you can even describe that?

Well, as I said we were mostly involved with running pilot or laboratory scale runs of making RDX. And determining what the yields were so that we would get the maximum yield with the raw material that we were buying. So we, these runs would take anywhere from four to five hours each. So we'd make one run a day and then we'd weigh the product and next we'd put it in the dryer overnight and then we'd weigh the product the next day. I can remember some other projects, they had a corrosion problem with some stainless steel and they asked me if I could analyze the stainless steel. I said, well I can try. So as a result of the analysis on the stainless steel, they found out that the manufacturer had sent us stainless steel that wasn't up to specifications and that was the reason why it wouldn't stand corrosion of these chemicals that we were using when it was supposed to have stood up but it didn't. So that was another project that I worked on.

In cases like that what did you do in order to correct that situation . . . ?

Well. I didn't. It was turned over to the legal department and to the purchasing department and they took care of it from there.

As far as the labor force here at Holston was concerned, was it union or non-union?

No, non-union.

What about, was that true for Eastman as well?

[inaudible]

And clearly this was the first time you'd worked for a big company [inaudible].

Yes, it was my first job.

The next question is was the work stressful or not, in other words was there pressure to work quickly? Sort of an open ended question, I guess you can answer any way you want to.

Well, I never felt any particular stress about, you know if I was asked to work overtime sure I'd work overtime. But as far as being under stressful conditions . . . now I'll admit the first time I walked into an incorporation area and seeing several pounds of explosives being stirred in an open vessel like they do, like they did, I sort of had the hair raise up on the back of my neck, you know. But you know after getting familiar with those things, then there was no fear of the product from then on, once you learned what you had to do to make it safe, you weren't under any stress, any particular stress other than it was just a commodity you were working with. But nobody lost respect for the stuff, but you didn't fear it.

Were you and people that worked at Holston aware of the contribution that you made to winning World War II?

Somewhat, more so just after the war probably than . . . Dr. (Davie?) mentioned several times, of course he was privy to a lot more information than we were, so he knew that submarine battle was being won and occasionally he would tell us something about it, but other than that of course there was nothing in printed reports or anything like that that we ever saw.

I think too, in addition to use against German U-boats, I think that RDX aerial bombs were pretty popular as well.

Yeah, yeah. I understood that one of the tests, you know before they, they were very reluctant to put composition B in blockbuster bombs. And one of the tests that the Army used to run apparently, they'd take a defused bomb without a fuse in it and fully loaded and take it up and drop it on the ground from a mile up or a half mile up or whatever. Well a TNT bomb would never go off. Once in a while a composition B bomb would go off and so that worried them, because it was not up to what their, the test that they had been using.

Right, in other words they couldn't rely on it to be truly defused.

Right, that's right. So, but finally you know, the need overcame their fear and so they began putting it in blockbusters. And the early blockbusters that were loaded with TNT they were so big and the explosive compartment was so big that sometimes they wouldn't go off in order. The detonator would go off and everything and it would set off part of the TNT, but the rest of it would just be blown apart and would never . . . it would never ignite. But with composition B you didn't have that problem. They were high order, what they called high order detonations every time. And so I don't know how much good they did like bombing like those submarine pens over there . . .

I've heard mention of that where they bombed the German submarine pens at Brest and . . .

And so I don't know, I don't have any information on how much good, but that's why they were trying to use composition B bombs that would penetrate yards of concrete.

So I guess, when did people first realize what they were making here at Holston was really critical to the war effort, or was it just sort of like known only partly?

Well it was always emphasized that we were contributing to the war effort and you know we were getting Army and Navy E Awards every so many months and stuff like that.

That's one of the questions further down, if there were any Army and Navy E Awards

Yes, and so they were publicized very well and . . .

Did they have like regular drives to like boost morale, buy War Bonds . . . ?

Oh yeah, well you know that was in all the newspapers and there were posters you know buy Bonds and stuff like that, but no pressure or coercion to do it.

Mr. Collins was saying that, saying yesterday that in the incorporation section that they were actually required to draw blood from employees like on a weekly basis to make sure they weren't subject to aplastic anemia as a result of TNT handling and stuff. And he said that a lot of people, or some people would quit rather than do that.

Is that right?

But they were required to. I guess another question here was whether the plant was segregated or not, and it sounds at some level like it was in the sense that you had, Blacks were more or less regulated to . . .

Janitor type work and food preparation.

Did they have like fully segregated facilities here at Holston, I mean bathrooms and such?

I don't remember, I really don't remember that. I remember getting off with, of course I came down here on the train and I remember getting on the train in Cincinnati, I'd come from Upper Michigan to Chicago and then across to Cincinnati and then getting on the train in Cincinnati, and I realize you're not interested in this kind of personal stuff, but I'd never been South before and coming from Chicago to Cincinnati, you know, there were soldiers everywhere, Black and White and they were laying in the floor, there were no seats, they were just everywhere. I got on the train in Cincinnati and no more Blacks. And I asked the fellow sitting next to me in the seat, I said, we called them Negroes back then, I said where are the Negroes. He looked at me kind of funny, he says, "You ever been South before?" I said no. Well, he said, "We're going to cross the Mason-Dixon line in a few miles now," and he said "You won't see that, they've got their own car now." Well, that was something new. Then I got off the train in Knoxville, went in the station there and Colored waiting rooms and White waiting rooms, Colored drinking fountains, White drinking fountains, never seen that before. (Laughter) But as far as Holston was concerned, no I don't remember, I really don't remember that . . .

I know at the Federal level at some point, I think there was some kind of executive order that Roosevelt signed decreeing that most or many defense ordnance plants there would be, there was a deemphasis on the legal segregation that had already was entrenched in the South.

We had a Black janitress, I remember that, in Building E. And I was trying to think if they had a, I don't remember her having a separate room, but then again she could have had. It could have been a locker in where her equipment was stored, because I don't ever remember, well I just don't know.

Yeah. The impression I get is that there may have been, but the numbers involved were so small that it's not a sizable percentage of the population around these parts. Okay. One of the questions that I asked earlier was if there was certain jobs that only men did at the plant or that only women did, and I got some of that from Mr. Collins, he said that they tended to be more women in the incorporation line . . .

That's true.

. . . than there was in the actual RDX [inaudible].

I don't remember seeing a nitration operator female, no I don't ever remember seeing that. Or over in the nitric acid. Now there were employees in the lab, there were female employees in the lab in the nitric acid area, but I don't remember seeing any operators because you know you could be horribly disfigured if you had been scalded with hot nitric acid and so I don't believe that women were ever . . .

What about, did the plant provide day care facilities?

No, no.

If there were facilities like that that needed to be used, did the community provide anything like that, or churches?

(Inaudible)

What did people do for that kind of thing or . . .

I guess they depended on their family members, you know grandparents and, take care of their kids while they worked or whatever.

Was there a plant or company newspaper at Holston?

No, no I don't, no there was not.

Because I've asked that question and some people have said they can't remember and some people said they thought there was something, but they weren't sure, but . . .

I don't remember ever seeing one.

And we've already talked about any morale boosting efforts, you know like blood drives and number of days without an accident or war bond buying.

Well, you know there wasn't such a thing as blood banks back then.

There was not?

No, no that was started later. I'm sure there was a blood bank of sorts at the local hospital, but it wasn't on a, on the basis like it is now.

What did they do for that in World War II?

I'm not sure.

They had plasma then didn't they?

Well, for the services they did, yeah.

For medical treatment in the field they had plasma and stuff.

And, see plasma doesn't require refrigeration or anything, it doesn't, blood will spoil but plasma they're able to . . .

So as far as you know they didn't have blood drives at all?

Uh-uh, no, I don't remember that.

Well maybe they didn't do it back then.

I don't think they did.

We talked about the Army/Navy E Awards, right. How many did they, how many did the plant receive?

I don't remember, but there were several.

Mr. Collins said that whenever they, Holston, received an Army/Navy E Award then all employees got a little pin.

Right, I still have one of mine. Yeah, still got it.

Oh I wish you'd brought that in. [Laughter]. Yeah, Mr. Collins had his original identification card and brought that in so I made a Xerox of it and I'll show it to you after the thing if you want to take a look at it. As far as Holston is concerned, when did your job end here?

Well, I don't remember how long I worked after they dropped the Atomic bomb. We started shutting down that same night.

In fact if I remember correctly, I think, I'm going to say, I think at the end of July they closed down the first line just because they were told they were no longer supposed to exceed their quota and they always had done that. And so I think they actually shut one line down like a month before. And then immediately after, like in early August . . .

Of course it took several weeks to, but see I was down in the nitric acid area at the time. We were still fooling with that down there and I don't really remember the day I went to Eastman, but . . .

It was about that time?

It was, let's see, I suppose somewhere in the middle of September, probably, but I just don't remember the exact date.

What would you say were the big differences between when you first came to work at Holston and at the end, or was there any great difference, in the way the plant was run or any aspect of the plant?

No, I can't say that there was any difference, no.

And we talked about this somewhat as well, the question is was the plant put on standby after World War II?

Yes, it was. There was quite a force of people that were kept on down here to mothball the whole thing and . . .

And they stayed on here between, let's say '46 and '49, until they started going back up again?

Yeah, well they weren't here all the time. No, there was a standby force here, but they were Civil Service. Eastman had no employees down here.

So Eastman, sort of that was it.

That was it as far as . . . and then in 1949, then I got a call one day from my division superintendent to, I was way up on the sixth floor of Building 120, they said you're wanted in Mr. Fletcher's office right away. Well here was Zuggsworth but I didn't, I knew of him but I'd never met the man. He was in a different division than I was and Charley Fletcher said, you know we've got a job for you. And he introduced me to Zuggsworth and he said, "We've been asked to open up the place again at Holston and we'd like for you to come down and help us." And during the conversation I said, "How long is this for?" He said "We've got a one year contract, that's all I know." But he said it might be twenty years. That was in 1949 and here it is 1995 and it's still running. And I remember the first voucher we got to spend money was a measly \$100,000. Now how long do you think \$100,000 would last now, that's what we got to start with (laughter). So as I told you, my payroll number was number 12 coming down here.

Just out of curiosity, what was the main problems in starting it back up?

Well, see we had nothing to start with. There was no water, no air, no steam, no electricity, no nothing. And of course the first, the Army said there's thirty million pounds of comp. B stored around the country, some of it was already here. And they said viscosity is too high, we can't use it. We'd like you to develop a process to make it useable, to thin it down, but not dilute it, they didn't want (laughter) more TNT and less RDX in it, they wanted the same concentration. So that was the first thing we had to do was develop a process. But first of all we had to get the steam turned on, you know they had to start the steam plant, and they had a small, I don't know what size steam plant it was, but they had a small steam plant going and so, but you know when they mothballed the plant, instead of dismantling pipelines, they just took a sledge hammer to a lot of them and broke the unions and elbows and stuff like that, they just smashed them. And so that was our first job, was to get the utilities back going again. So that took a while. Then we developed the process and we found out what we had to do and then [inaudible].

Was there a good record of what you had to do? In other words had they kept good records during the second World War so you could look back on that and go . . .

Well, most of us had worked, you know, with this stuff before so that's why we were asked to go down there, most everybody that went back down had already been there before. Except Zug, Zug hadn't been there before. So we knew, of course, ahead of time that we were going to have to haul this stuff up to the fourth floor of G building, a recrystallization building, so we could go ahead and start making drawings for the elevator, we had to put it in an elevator to haul the stuff up there. So that was all underway, the contractor was in there installing the elevator.

One of the questions here deals with wartime profiteering among defense contractors and did you ever remember hearing anything about that sort of activity or was . . . ?

When you mentioned earlier integrity with the company, that's one thing that we felt that Eastman excelled in. Now I remember hearing that Great Britain wanted to buy all of comp. B that we could make, were willing to pay \$5 a pound for anything that we could make that we could sell to them, that the government would sell to them, not us. And I well remember the first time when our costs went to \$1 a pound. Now that's how efficient Eastman was running the plant. We were able to produce it for \$1 a pound.

So it seems like Eastman wasn't really subject to any of that kind of rumor stuff going around.

And here again, I think Eastman was [inaudible]. I don't know that for a fact, but I do know that in Holston defense days they were, not on a cost plus basis but a fee, an annual fee, it didn't matter whether we made so many million pounds or what, the fee would be the same for [inaudible]. So I don't really know that that

was true during World War II, but I suspect it might have been. Because when you have a cost plus basis that's when you get into profiteering.

We've talked about the plant's safety record, which seems to be quite good and we mentioned the three fatalities that did occur already. What about minor accidents, were there, is there any particular type of minor accident that was common?

Well any time you have a hand operation, like lifting boxes, of course you have back problems and I suspect if I had to single out any one particular injury, it would be strained backs and that kind of stuff.

Was there any particular area of the plant that was considered the most dangerous to work in?

I suppose that would have been the incorporation area because now it was a finished product and it was, see before that it was always either under water, mixed with water or something, and so it was relatively safe, much safer there than down in the incorporation area.

Where there safety instructions that were given to the new workers and what were some of the safety precautions that the people were required to take, do you remember?

Well for one thing the floors were kept scrupulously clean and wet. Because that reduced the sensitivity of the explosives by having, if you had any spilled on the floor or anything, the floor was wet, you still weren't in any particular hazard and of course the floor was washed, in fact in some of the incorporation areas I believe they were washed once an hour.

Was that true even in the RDX production area?

Yeah, but it wasn't, spills weren't very common there because it was all in tanks, you know.

So it primarily was in the incorporation area where they were very careful about that? And I assume that people had, and I've heard reference to like glasses, special glasses and clothing . . . ?

Yeah. Oh, in going down the nitric acid area you had to wear 100 percent wool clothing. Now not just me, but all the people down there. Because cotton clothes, they wouldn't last a week due to the fumes. Now that's how bad the fumes were down there (laughter). And so yeah, everybody wore protective clothing. In the change houses, oh yeah, we had our own laundry of course, so all the workers' clothing had to be laundered every day, they put on fresh clean clothes every day. And there were cotton coveralls, white cotton coveralls, white caps, white baseball caps and white socks, white underwear and nonconductive shoes, with no nails in or any . . . no, instead of nonconductive they were conductive soles, you didn't want to build up a charge on your body that would create a spark if you touched a switch or something, you didn't want . . .

Oh, okay, that may have been partly the reason too why they kept the floors wet then, so . . .

Yeah, so the soles were rubber, but they were conductive rubber so they would conduct any static electricity away from your body.

I guess, did they know about that at the beginning of the plant or were a lot of these safety features sort of . . .

Taken from other TNT plants, you know they were, because we bought, see we didn't make our own TNT obviously.

What did they do to combat, I know that you breathe TNT fumes that you get that aplastic anemia and all that . . .

Well, just had good ventilation, that was the secret to it. Now at the, of course the only place where you were in danger of that was in the incorporation area because before that there was no TNT involved. But of course I had to have my blood tested too, but I didn't have to have it as often as those workers that were there all the time. And you know when you were boiling the water off of the molten composition B of course, they had suction vents over the kettles and the casting kettle and then that long belt where they cast the stuff, they had suction covers over with exhaust vents on those too.

Was there any time during your employment at Holston where you didn't feel safe? You mentioned earlier that when you first came to work that it was sort of weird to be in the incorporation area.

No, I never felt threatened by, that I was doing anything unsafe, you know.

Did you ever hear anything from people in the community who felt they were unsafe because of the proximity of the . . .

No, I can't say that I did. Maybe Mr. Collins might have, but I don't remember.

I think we've probably talked about this already, but just if you would repeat, what was the pay at the plant?

Well I don't really, you mean the plant role, the operators? I don't remember what their pay was.

Was the pay the same for everybody in the same job class. I know that Tennessee Eastman had some sort of merit pay, so I'm not sure how that figured into it exactly.

Well, I see what you're talking about is that you were paid as a novice or as a beginner in a certain job, you were paid one pay scale and then as you gained experience you were brought up to full pay. And of course you had to be merit rated in order to get that, your foreman of course would do the merit rating. But yes, pay was the same for all jobs that were, and of course each job was evaluated by the Industrial Relations Department as to the responsibility involved and the hazard involved and all that was taken into account and finally arriving at what pay bracket you'd get. And you know like the people who just transported explosives from one building to another and the incorporation area, chances are they were operator helpers and probably on what we term a six bracket job, back then I don't know what the pay scale was, but . . .

Were people able to save a lot of money during World War II while they worked here or is that . . .?

Well you know, I can't (laughter) speak for other people. I really don't know how to answer that question, because I don't know.

Well honestly most other informants weren't really sure how to answer that one either pretty much. It just depends on what you heard, you know of people saying, well yeah I made a lot from working at Holston or . . .

Well of course a lot of the women working here were single women and their husbands or boyfriends were overseas in the service, so a lot of them probably had a nest egg of some amount to set up housekeeping then when their husbands would come home.

We were talking about things to do in town and stuff, did you ever hear about any gambling in Kingsport?

Oh there was, more in Johnson City than here, but yeah, oh yeah, there was gambling.

Illegal I assume.

Oh yeah.

What about, what did the plant do as far as sponsoring recreational activities, or did it?

I don't recall a thing.

Like in other words, the examples they've got listed here are pot lucks, dances, sports teams . . . ?

No, I don't remember a thing.

Was there a higher incidence of illness during the war as a result of crowding or was that a factor that seemed to be . . .

I don't have any knowledge of that.

I know we've already talked about the water supplies and sewerage disposal. How would you say this area has changed, or was changed, by having Holston here?

I don't know how to answer that. Of course it's brought in a lot of money through the years and it's provided a living for a lot of people. And it's gotten to be just another employer, industrial employer in this family of Kingsport.

(Tape recorder turned off and then back on.)

In addition to all the other things that Eastman had to build when the plant was under construction was a railroad, and miles, not just a little bit but miles of railroad and tie it into the main line, as well as everything else they had to build.

I had a question for you, somebody had suggested that the two pipelines they had that connected Area A and Area B, that that was done after the war.

Oh yes, it was.

It was done after the war?

It was. The weak acid, the weak acid that was sent up there to Area A was hauled in wooden tank cars. Because, you know, because to save steel and, well for the weak acid the tank cars would have had to be made of stainless steel and . . .

You're talking about the weak acetic acid, right?

Weak acetic acid. And, now it had, once it went in these cars it had no nitric acid in it, that was already been removed in the primary dissolution area, in B line. So all it was acetic, weak acetic acid and water, that's all it was. But it was loaded in wood tank cars and shipped to Area A and the plant railroad, oh they made several trips a day to haul the weak acid up there. And then they'd haul acetic acid, 100 percent acetic acid, back and 100 percent acetic anhydride the other way. But not in the same cars of course, they were in steel cars and stainless cars.

So this pipeline, the six inch and the eight inch, they were added later?

They were added later.

When were they added, do you know?

Yeah, in fact it was done after I went back to Eastman in 1953, they were put in after '53. And this last one, they just added another line for, it's the waste water going to the river.

I think they just added that in the past six months, or they redid it at least.

Redid it.

Most of the women that worked here in the plant, do you have any idea of what they did after the plant went on standby and they got laid off?

They went back to being housewives and they, many of them were, they were just working for patriotic reasons. They didn't want to make a career out of working, they were wanting to go back and raise a family and their husbands were coming home and so most of them went back to being homemakers.

Were there any labor shortages during the war?

Oh yeah, I'm sure there were, I'm sure that they had a hard time finding just bodies who were willing to work. However near the end of the war there were people coming back, discharging from the Army, the last, I remember Lee (Davie?) telling me, he said, Mel we just can't ask for another deferment for you because we've got engineers coming back from the Army, you know they were already discharging some [inaudible]. And so I had to go for a physical and I as 1A and went for a physical and then I was 4F, I flunked the physical, so I didn't have to go.

Do you remember any discussions in the community about like Holston hiring practices, were there any people that were, let's say felt they were discriminated against as far as getting jobs and things like that?

No, no I don't remember any of that.

I guess one of these questions here deals with the fact that the plant was located here in Kingsport and did it mean the war and the war effort had more of an immediate impact on people here?

Yeah, I'm sure it did because all of a sudden we were a target for possible bombs. You know, for sabotage.

And as I understand it, there was a case of somebody who was arrested here, I mean not here but years later for sabotage although I think they passed RDX samples to a Soviet spy, not a German spy.

Yeah.

How do you feel about the wartime activity at Holston now compared to the way you felt about it when you were working there, working at Holston?

In what respect?

Any you care to elaborate on. For example, do you know now more about the role this played in the war effort than you knew at the time and . . . ?

Yes, I'm sure I know more about that aspect, but that doesn't lower my respect for what we did or what we were required to do. It was a wonderful place to work, I really enjoyed being there both times, both times I was here I enjoyed working here and I was well treated both times and I don't hear any adverse comments, I realize now that when the plant is shrinking that, you know things aren't all rosy, nobody looks forward to, because it cuts out promotions as well as, it might cut out your job entirely, but it certainly limits promotions and stuff like that.

After World War II, what kind of role did you expect the plant to have in Kingsport, or did you think much about that?

Well, see after the war it was shut down completely, so there was no, it had no impact on it. There were like I said a few Civil Service workers that kept everything on a minimum standby and it was minimum.

And we sort of talked about this already. What kind of effect does the plant presently have on the area and do some think it should be permanently closed or permanently open?

I haven't heard any comment from people in the city, you know about how they feel about whether it should be open or closed, but . . .

Well that kind of concludes the formal questions that I have to ask. I know we've gone off on a number of good tangents, so we've got a lot of good information.

Probably my fault.

Oh no, that's what I'm looking for [laughter] so that works out really well. But if there's anything you want to add or anything . . .

No, I don't think so.

(End of Interview)

HAROLD STAUFFER
September 25, 1995
Kingsport, Tennessee
Mark T. Swanson, Interviewer

. . . for a short time, then was transferred down to Holston Ammunition Plant, you know down at Area B and I worked down there as a mechanic.

And this was during World War II, right?

Yeah, the first start of it.

And if you don't mind, just for the record, what's your birthdate?

August 11, 1915.

And have you always lived in this area?

Oh yeah.

So, you're from Kingsport then, right?

No, I'm from West Virginia. I came down here and went to work for Mason Dixon and when Frasier Brace Engineering Company come in here, I went to work with them.

When was that roughly?

'38 or '39.

In other words, when they started working the plant?

Ah-huh.

I think they began that in early '42.

Well, now started building before '42.

Actually, I don't think they did, because I don't think Frasier Brace was involved until Tennessee Eastman got the go ahead to begin work on the Ordnance Works itself.

Well, it may be now, you take a person 80 years old, why he doesn't remember too . . .

That's just what I've read. But, supposedly they didn't start it until '42. I think that Tennessee Eastman had done work on the pilot plant as early as the very end of '41, the very beginning of '42. But, the actual, when they got the go ahead from the government to work on Holston Ordnance Works, I think was in '42. So, Frasier Brace would have been called in, along with, I think it was Charles T. Mann, which was the architectural firm that worked with them. Were you living here in this area when you heard the plant was going to be built?

Yeah, ah-huh. I was living on Princeton Road then and my son had this house built for us here and we moved over here. We've been in this area, yeah.

But you moved from West Virginia to here?

To Kingsport, ah-huh.

And that was when the plant got going, right?

Yeah.

In other words, you moved here because the plant started up?

Well, I guess so. I went to work for Mason Dixon Line and of course, you know, coming out of the coal fields, there wasn't no work back in there at that time. So, I happen to get a job with Mason Dixon and Mason Dixon drivers come out on a strike. And so, we was housed up down there, you know anything about Kingsport?

Just a little bit.

Well, down on Market Street next to The Mead, and we had a shop in there, and rebuilt tractors and trailers and so forth while the strike was on. And then I just decided I'd try my luck my with Frasier Brace and I got a job with them.

That would have been while the construction was going on then at Holston?

Yeah, it wasn't nothing but mud road through there then. It wasn't too much of anything.

How much were you getting paid when you first started work at Holston?

About \$125 a week.

How did that compare with when you worked for Mason Dixon?

Oh, it was twice as much.

Oh really, so that was a good move.

Oh yeah, because we had the boy and I bought this house over there and of course, I had to make payments on it and that's the reason. Mason Dixon wasn't paying too much back then.

Do you know that much about the land values at that time? When they started building Holston, did that really jack up the land values?

That I don't know. I wouldn't know at all, it probably did though.

Yeah, that seems, I would guess would probably be the case. And you came from West Virginia?

Yeah.

What part of West Virginia?

Mercer County, [inaudible] Bluefield.

So, did you work in the coal fields?

I did for Polk County Fuel Company, that was the first job I had.

How much did you make there, if you don't mind me asking?

That I don't know, just worked a day or two a week and that was it.

So that was definitely a step up to get into Mason Dixon?

Oh yeah.

When did you move to this area to work for Mason Dixon?

It was around '37, I guess.

Also, do you have any friends or relatives in this area, or at the time that you moved, did you have any?

No. Now, my wife had an aunt that lived down at Church Hill and she wanted her to come down here and get away from the coal fields and that's where we come to.

So, you moved here with your wife, you didn't move with any other family then?

No, no.

What was it like when you first moved to Kingsport?

It was a business little place all right. And of course, Broad Street wasn't jammed packed like it is now. And different places wasn't in there, Sobel's wasn't there, well there wasn't nothing but the First National Bank there in Center Street and on the left or right, wasn't no buildings whatsoever. And so, it grewed since then, you know what I mean.

How many people were there in Kingsport back then?

Back then, I have no idea.

A lot less than now?

Oh Lord yes, ah-huh.

How about housing, was it easy to find housing in Kingsport back then?

No it wasn't. We got a place, two rooms upstairs over a business. And finally, after I went to work for Frasier Brace, I found a house down as you go to Area B, you know, and I moved down there. And that was about it.

What about food, was it easy to get all the food back then?

Groceries and so forth?

Yes, ah-huh.

No, it was all right. I had two rooms up over the grocery store.

What did people do for entertainment in Kingsport back then?

Well, we had State Theater and another one, they had about three theaters.

Did they have like dances and things like that?

I don't know. I guess so, but of course, I'm not in the dancing category.

What about salaries, what was the average wage back in those days?

Well, it wasn't much. But, I just can't think now what I did make with Mason Dixon, enough to live on and that was about all.

What was the reaction of most people around here in Kingsport when they heard they were going to build that Holston Ordnance Works?

Everybody that I knew was up for it, because it meant jobs for them.

But, ya'll didn't own any of the land that the government ended up buying?

No, no.

As far as you were able to tell or from what you heard, were most people who had their land bought by the government out there, were they paid a good price for it?

I don't know. I never did hear how much the land was sold for. I believe, wasn't it Dennis, John B. Dennis owned that property down there?

I don't know. John B.?

Yeah, Dennis.

I'd heard from, do you know Mr. Raleigh Dingus?

No.

I interviewed him on Saturday morning and he said, he thought there used to be a dairy farm down there.

Oh yeah, there was.

But, he didn't remember the name of the people that had it.

Now, it was Edwards, I believe had that. I believe it was Edwards, where, had that big mansion down there across from Area B.

Yeah, they've got Allendale, I think is the name of that big mansion across the road there. They've got another one that's on the other side known as Raleighwood.

Raleighwood yeah, the doctor bought Raleighwood. That big brick building.

Right, the one that's by the north fork, right over looking the river.

Yeah. And let's see C.P. Edwards owned the one on the right, right across . . .

Right across from Holston, so that was there when Holston first went in, right?

Yeah, ah-huh.

Because I had somebody thought that Allendale was built later or something, but it was there. So, you worked for Frasier Brace then and they did construction work, right?

Ah-huh.

What exactly did you do when you worked on construction there?

I was a mechanic, light duty, you know, worked as a automobile mechanic, truck mechanic.

What kind of a shift did you work?

I worked days and 3:00 to 11:00.

Is that how they normally worked it out at Frasier Brace was like in shifts?

Well, not the mechanical end of it, because let's say for instance me, I had day shift then 3:00 to 11:00. I had day shift whenever I was over here at Area B and down at Area A and down at B, I had 3:00 to 11:00. You know where the donut place is up here in Center Street?

I don't.

Well, Frasier Brace Company came in here and bought Creech's Garage out, just a little ways above there, and we started out in there. I think, to tell you the truth, I think I was about the fourth or fifth one hired as a mechanic.

What was a typical day like when you had to go to work for Frasier Brace?

Well, what do you mean, whether we was pushed or . . .

Well, that or roughly what kind of activities did they expect you to do?

Well, service their equipment. They bought all the used cars from Ladd and (Maloney?), Chevrolet people. And we fixed them up and they had to have vehicles for certain bunch of people to use and they bought the wreckers and so forth. And let's see, had two or three wreckers, two wreckers anyway and we put mud flaps, steel mud flaps down behind the wheels, and fixed them up for them to use. So, that's about it, but . . .

Were they pretty good people to work for?

Oh yeah, they was nice.

Was there any animosity or any bad feelings or good feelings for that matter, between like Frasier Brace and the Charles Main Company and the Holston People?

Not that I know of, seemed like everything went smooth.

What do you remember about conditions at the construction site, let's say Area A and Area B while the buildings were going up?

Well, I know it was awful muddy and so forth down through there and I've heard different things and I won't go into it. Because, I don't know whether it's so or not, that they lost a lot of nails and even down, a bulldozer was covered up.

Oh really?

Yeah.

That's one thing that I've heard mention of before, was that it was so muddy down there that there was a general contractor who made a lot of money off of gravel, because they tried to gravel everything, he said there was no way they could get machinery down there without it.

Well, now I heard it. I didn't see and well this, down at the filter plant, I believe it was down next to the Holston River, somewhere down in there; that this bulldozer got in there and they couldn't get it out and they just tore the darn thing up. Now, I heard that, you can hear anything.

Might be true.

Might be.

That's big enough down there, they probably haven't found it yet. Did most workers that were working there at the time, did they live in town or did they have a special camp, construction camp?

No, they come from Johnson City and Gate City and so forth.

So they lived all over the place and they just came?

Drove in.

So there wasn't a work camp there?

Not that I know of. Well, if there were, I would have knew it I guess.

What kind of people worked there at Areas A and B? Were they all locals?

Yeah, just scattered all over the community.

So, they didn't come in from a long way away?

Well, a lot of them come in here from Wisconsin, I believe, followed Frasier Brace in here, you know, and some from St. Louis. No, they had a job out there in Wisconsin I believe, then they come here to start this one.

Okay, I know Frasier Brace is based in New York, I believe, I know they work all over. They did work all over the place. How did most everybody get along working at the construction site?

Everybody got along good, as far as I know.

Next question deals with minorities and stuff. Were there many minorities that worked at the construction site?

You know, I just couldn't say.

You know, whether there were Blacks or Hispanics or anything like that?

By golly, I don't know whether I seen any Blacks in there or not. [inaudible]

Well, there not that many around here anyway?

[Inaudible] I don't want to say something that I'm not sure of, but I don't believe that I seen a Colored person down there.

What was the town like during the construction down at Holston, was there more entertainment going on or was there more to do in Kingsport?

I wouldn't say that it was, the only thing, they had a carnival, this that and the other every year, but as I say, they had, well they had Civic Auditorium out there and of course, I guess they had dances and everything else. But, me, I didn't participate with that.

What was the attitude of most towns people to the construction workers?

They was good as far as I know.

So, there wasn't any friction between the town and the construction?

No, there wasn't no friction.

As far as you know, the people that came here to work, did they take work away from local people?

No.

The next question deals with different changes that might have occurred in town as a result of the construction period. I'd imagine there was a considerable housing shortage.

Yeah, let's see, how would I, down there on Sullivan Street, they built houses in there, brick and they had concrete floors. And another place over here on Sherwood Road, they built a bunch of, I don't know, two rooms, I mean four rooms and a bath, and built it out of speed brick, you know something to get them up right fast.

Right. You said speed brick?

Ah-huh, long brick, speed brick, I think is what they called it. And that's about the only thing.

Was there like an increase in crime or anything as a result of all the influx of people?

No, not that I know of.

Was it a fairly smooth transition from, at Holston between the construction period and then production?

I think they were, ah-huh.

Because I know a lot of it was going on simultaneously. They were doing construction, I think construction was still going on, on some of the lines but they were all ready starting production.

Yeah, down on the lines, ah-huh.

Before you started working with Frasier Brace at Holston, what did you think that working there was going to be like and how was that different from what you actually ended up doing?

Well, in other words, I wanted to get on with Frasier Brace because it paid more money and that's what we needed. That's about the only thing I can say.

Okay, so what ever they wanted you to do, that was fine?

Oh yeah.

I think you may have mentioned this already, but in what building area or part of that plant, did you work in?

Down in B?

Yeah.

You know where the barns was at, the barns back over, they had two or three barns?

Back before the plant was constructed, I know roughly where they were, I believe.

Frasier Brace had a barn and we worked out of it as the garage area and the parts area. And finally, they had a cafeteria in one of them and so, that's about the only thing I know.

Where were the barns in relation to something that's there now, that I can orient myself to? Was it right off of 11 West?

Well, you go through the gate and somewhere down in there, you turn, where's the telephone office, where is the railroad shop at?

I've got a pretty good idea, it's over there by the B line, somewhere around B line or the acid area.

Well, you wouldn't get down in the acid area, it's back on this side.

How about, is it close to the firehouse?

I wouldn't know about that.

Well, the firehouse is not too far from the beginning of the production line, but those barns that you're talking about, they're gone now, right?

Yeah, my understanding they are.

But they were there during construction?

Yeah, ah-huh. And they used one of them as a cafeteria, my wife's sister worked there for a long time. She's passed away though and then she went from there to Tennessee Eastman and worked there until she retired. But, oh, let's see now, I can't hardly tell you. You got a bunch of brick buildings down there and I think we go out this a way, to the left as you go in there and the barns was back over in here. I believe is the way it is, now, it's been 50 years ago.

So, they were used as construction and one was used as a cafeteria, right?

Yeah, ah-huh.

Now the work that you did was it union or nonunion?

Guess it was union.

It was union?

Yeah, I'm pretty sure it was. Because, I believe it was union.

So, Frasier Brace probably used union labor?

I believe so.

I don't know if Holston did or not.

No, Holston didn't.

Yeah, I had a feeling Holston did not.

Eastman don't have a union out there.

But, the kind of work you did, would not have been any kind of assembly line work, correct, because you were just working on the cars?

No.

Out of curiosity, when you started working for Frasier Brace, was that the first time you had done any work like that?

Oh yeah, far as construction, ah-huh.

How did you feel about that, was it good to work for Frasier Brace?

Oh yeah, it was nice, it was good. I believe everybody in the shop take an interest in the work.

The next question deals with if the work was stressful or not and also if there was any pressure put on people to work quickly?

No.

So, they pretty much let you work at your own pace?

Well, yeah, ah-huh, I would say so.

And how did you feel about Holston's contribution to the war?

You know, I don't believe I heard too much about it.

Well, I didn't know that much about Holston until fairly recently, but apparently, Holston was one of the major producers of RDX in the country. And when it was at its height of production, I believe it was the greatest producer of that composition B there was in the world.

Yeah, and they sent it from here, where Arkansas or somewhere out in that neck of the woods?

I don't know where it went after this, but I know it had to be shipped somewhere, it was made here but they didn't load into anything here.

I think it was done out in the Midwest.

I think it had to be loaded into something else in order to be used, like a depth charger or a bomb or something and that was done elsewhere. But the making of it, I think this was the biggest.

Was here in Area A and then pipelines to B.

Yeah, they made a lot of the acids they needed to use in Area B in Area A, but the Area B [inaudible] production lines, I think made more RDX, then they combined it with TNT to make that composition B. I think they made more of it there than they did in any other facility in this country. I think they used that new method, the Bachman method of making RDX.

I've heard some of them say, it was the first start of atomic bomb.

Well, I don't think they did that here, but I think that Tennessee Eastman did have a crew that worked over at Oakridge and they did work on it.

Oakwood, that Y-12.

That's it, Y-12. I don't know anything about it, much more than that, but, I've heard people mention that. And of course, back then, that was a real top secret thing.

Yeah, ah-huh.

Supposedly nobody knew about it. But, Tennessee Eastman worked on that as well. What they did exactly, I'm not sure, but they had some connection with that.

Didn't Procter & Gamble used to operate Area A and B at one time?

Not that I've heard of.

Seems to me like they did now.

Not that I've read or heard of, but, that's all I can say right now. As far as I know, it was Tennessee Eastman all the way, for Holston, which was really just sort of a subsidiary of Eastman. I know Procter & Gamble did a lot of other plants, I don't think they worked on this one, but I think, Procter & Gamble were definitely involved in the ammunitions industry during World War II.

I believe now, you may find out they had something to do down here or trying to get the contract to run it or something.

That's possible, although, Procter & Gamble don't have a big presence here, do they?

Not that I know of.

I think that's the reason the government decided to come in and set up this plant here, was because Tennessee Eastman was located here and they had a special process for making that acetic anhydride which was needed in that production of RDX. So, they said, why don't we just have a plant here and I think, if Tennessee Eastman hadn't have been here, I doubt they would have put the plant here. But, I'm not sure what Procter & Gamble had to do with it, if anything. Were there a lot of women that worked at the plant?

I don't know about that now.

Do you ever remember seeing lots of them at the production plant or in some other capacity?

In the offices, like the telephone office and I don't know what these other big buildings is. Of course, they had to use them as telephone operators and so forth. I really don't know.

Do you remember if the plant was segregated, you said earlier there weren't that many Blacks that worked in the plant?

Not to my knowledge.

So, as far as you remember, you don't remember it being segregated?

No.

Were there any jobs that only men did or any jobs that only women performed at the plant?

I couldn't answer that question.

Do you know if the plant provided any daycare facilities for the women that worked there?

I don't know.

Do you know if any of that stuff, like daycare facilities was provided by the local community?

If there was, I don't know.

Was there a plant or a company newspaper that you remember?

I don't think so, to state the truth. At least, I didn't get anything in the mail.

How often did the government go around and try to work on like, let's say war morale? Did they have these little campaigns to get you to buy war bonds and things like that?

I don't know how often, just to tell you the truth.

But they did do it?

Yeah. But I didn't see too much of it.

As far as you knew, did a lot of people buy those war bonds?

I did.

But they didn't have any quotas?

No, not that I know of.

What about things like blood drives?

No.

Do you know whether the plant ever got any Army/Navy Achievement Awards? I think they were often called E Awards for like high production?

I don't know.

When did your job end at Holston?

Somewhere in '42 or '43.

In other words, when construction was over?

Yeah.

When Frasier Brace pulled out of it, that was it?

Yeah, ah-huh.

What would you say were the big differences between the first few days when you came to work there and then the last days?

Well, the only thing that everybody wanted to go somewhere else for a job, you know. And I guess, that was on their minds more so than anything else.

They were just looking for a new job then at the end of that?

I guess, yeah, ah-huh.

So, I guess you were here in Kingsport when the plant went on standby after the war, right?

Oh yeah.

How did that affect Kingsport?

Well, in fact I never heard too much said about it.

I know it was closed down, well not quite closed down, but it was like . . .

It was in the fact, that they was calling back a lot of people, and so, that's the only thing that I remember hearing or reading about.

What about plant safety, do you remember hearing discussions about what Frasier Brace did in order to provide a safe work environment or anything like that? Did they ever have any pep talks and things like that?

No.

Do you remember any serious accidents that occurred while you were there?

No.

I know that, from what I've read, they had, I think three people that died during World War II at Holston Ordnance Works, but apparently none of them died as a result of a chemical explosion. They all died from something else. So, that was a pretty good record considering a lot of other ammunition plants.

Oh yeah, ah-huh.

What about minor accidents, what were the most common minor accidents?

That I don't know, because nobody there in the shop got hurt. And of course, I wouldn't know about what happened out in the field or around.

From what you remember hearing and stuff from people talking, was there any area of the plant, like plant A or plant B that was considered more dangerous than the other?

No.

Were ya'll given any kind of safety instructions at the beginning of work or anything?

No.

What about special clothing, were you required to wear anything like that?

Just whatever.

Just whatever you had?

Yeah.

Do you ever remember hearing people in town complaining about or voicing fears about the fact that Holston was over there making high explosives?

Some comments and still say this, one of those, what do you call it, magazine area, if anything go up, why it would wipe out Kingsport. Just something like that, just foolishness, but nothing serious. And I'd say it would.

It would do some damage, there's no doubt about that.

I'd say there's plenty of it stored.

I know they stock piled that stuff, whether they stock piled it there or not, I don't know.

They did across the river in those igloos, didn't they?

Yeah and the igloos are still there. I think you had mentioned earlier, about what the pay was with Frasier Brace, but what was that again?

\$125 a week, I think that's what I started out at.

And the shop that you worked in, was everybody paid more or less the same?

Same thing.

Since you didn't work at the plant, you might not know this or anything, but, the next question was about whether men and women who did the same job, got paid the same amount of money?

I don't know, because that'd be in the plant, but see, I didn't work in the plant, I worked for the contractor.

As a rule, do you think that most people during the war years when they working, were they also able to save any money?

See, it wasn't no women at all in the garage area or parts department or heavy equipment, to my knowledge there wasn't. And so, I don't know that women worked on lines or what have you, I don't know.

Do you know whether people were able to save a lot of money working at Frasier Brace or Holston?

Well, at Frasier Brace, I paid quite a bit on my home. But, that was about it.

It seems like, from what you've answered so far about people who worked at Holston and then people that lived in Kingsport, that people got along fairly well.

Ah-huh.

Was it fairly common for the newcomers to mix with the people of Kingsport?

Oh yeah.

Would you say there were any problems between one group and the other?

Not that I know of.

Did Frasier Brace and Holston encourage their staff, the newcomers to mingle with people with Kingsport?

Not that I know of.

So what ever happened, just sort of happened?

Yeah.

Out of curiosity, did people gamble in Kingsport back in those days?

If they did, it was kindly a hushed up deal.

So, it was illegal?

Ah-huh, illegal. I guess they did, but I don't know.

What were the general recreational activities of people in Kingsport or for that matter, at the Holston work site or were there any?

None that I know of, to tell you the truth.

Did they have enough time for things like sports teams and things like that?

Nothing but the high school and so forth, basketball and things, football and so forth.

Was there like a housing boom in Kingsport when all these people came in?

Yeah, as I say, down in West Sullivan Street, where they built those brick homes, speed brick and up here in Sherwood Road, they built a lot of them. I guess it was pretty well boomed up. And of course, you know where our Oakwood Market is?

No.

Well, that used to be a golf course in there. And now, it's the bank and hardware store, Boot City and I don't know how many places. Well, it used to be a golf course, now it's just covered up with houses and businesses.

Were there a . . .

(End of Side One; Begin Side Two)

. . . as a result of the extra people that come into Kingsport, was there any kind of a problem with epidemics or illnesses or anything or was there a threat of it?

No.

What about the water supplies and sewerage disposal, was that adequate in town?

Yeah.

So, you didn't have any problems as a result of the extra people coming in?

No.

How would you say that having Holston here has affected Kingsport? How was Kingsport different after Holston was here, than the way it was before?

Well, it was more a booming town, you know. And regularly, it gives a lift to the whole community around, but if Holston goes down, Eastman, why this would be a dead country.

Was there a curfew in town during World War II?

If there was, I didn't pay any attention to it.

Because I remember, I asked Mr. Dingus about that and he couldn't remember there ever being one.

No, I don't remember.

Did anyone in town or that you heard about, did they dislike Holston because of the fact they were making munitions here?

Not that I know of, uh-huh. No, unless somebody get cut off down there or something.

In other words, they got laid off work or something like that?

Trouble.

What about later during the Korean War and during Vietnam, was there any problems?

No.

Do you have an idea of how many women worked at the plant?

I wouldn't have the least idea.

As far as you know, from what you've heard, you might not know this either, but, would you say that most of the women that worked at the plant, probably had never had jobs before outside of the home?

I'd say the biggest portion of them didn't.

Do you know if those that did work at Holston, did they continue on doing some other kind of work after the war or did they just go back home?

Well, as I said, her sister, my wife's sister worked down there and then she left down there, I guess she was cut off and went to Eastman and worked in the cafeteria out there. And so, that's about the only thing that I know.

As far as you know, there weren't any sizeable minorities that worked here?

Uh-huh.

What was the big transition after the war, it sounds like a lot of people, if they were just commuting, they would have just gone back to where they lived?

Yeah, ah-huh.

But, did Kingsport grow a lot as a result of, in other words, a lot of population stayed on, even after . . . ?

Yeah, I believe so.

Were there any labor shortages during the war?

Well, they saw it was.

How did the plant solve that problem, like if say, Frasier Brace, if they had a labor shortage, how did they get more people in there?

Well, I wouldn't know about that. But, it seemed to me like they had plenty of help, because people come from Bristol, Johnson City, Gate City, and Rodsville and [inaudible], and so forth. And people never had worked on anything else, but the farm and come in here. And so, I don't think they had any trouble what so ever.

Was that a difficult transition do you think, for a lot of people, if they were only used to farm work and they came in and started working at some place like Holston?

Well, I'd say it would be, that they'd leave the farms and come in here.

Was there a problem at Holston with absenteeism?

None that I know of.

Do you ever remember hearing any discussions in town and stuff about people that had difficulty getting hired on at Holston? Or did you ever that either Frasier Brace or Holston preferred to have one type of person over another type of person?

No, I hadn't.

In other words, whether they preferred men for some jobs, women for some jobs or Whites for one job or minorities for something else or union or nonunion, anything along those lines?

Well, I know they don't want union here in Kingsport, Eastman don't want it, you know. And so, I hadn't heard anyone, well yeah, Mason Dixon, as I said, come out on a strike. They organized a union and that's whenever I left. Because I didn't want to get messed up, I did get belong to United Mine Workers Union in the coal fields. I had to do that, John L. Lewis, and I didn't want to get messed up down here in this truck driving outfit. And of course, I quit on account of getting more money with Frasier Brace.

What happened to most of the construction workers after Frasier Brace got through?

Well, just like I said, they went back to their home place or maybe, some of them went to Oakridge, Wide Trail and went to work down there.

Did a lot of people or did some people that worked at Frasier Brace, did they stay on and work . . .

In the plant?

In the plant itself?

Ah-huh.

Would you say a lot did that?

Well, I'd say quite a few did, I wouldn't have any idea how many.

I guess, did the fact that you had the plant here in the first place, make the war seem more immediate to those who lived in Kingsport? The fact that the plant was here in Kingsport, did it mean that the war was more of a news item for people in town?

Ah-huh.

As a result of having the plant right here versus if you lived 100 miles away and there was no munitions plant? Did people pay more attention to the war?

Yeah, I think they did. I've heard them say that starting at Area A and B was the first, second start of atomic bomb and so forth. And I didn't know, just to tell you the truth what it was made of. I know the RDX, I've heard of it, in fact, I don't know how, but people was out at beer joints and things like that, whether they talked it or not. Which naturally, ones would and I never had time to go to them.

Out of curiosity, not one of my questions here, but just out of curiosity, did people talk about their work a lot, like let's say, did the supervisors ask people not to talk about their work for fear of security breaches?

No, not that I know of.

What kind of effect do you think the plant presently has on the area?

Now?

Yeah, now.

I don't know, the way it's cutting off, it has pretty good effect. Because these merchants are losing quite a bit of money. When the paychecks stop, you know, it hurts the merchants, so I wouldn't know how much or anything like that. But it would have some kind of effect on it.

Well, that concludes all the formal questions I've got. I was just wondering if there was anything else that you'd want to add about what you might remember about working for Frasier Brace?

Well, there's nothing that I could add, to tell you the truth, I liked to work for them. And I'm sure that I done my job and that's about all.

One more question if you don't mind. Most of the people that were in a supervisory capacity at Frasier Brace, did they come from New York or were they from all over the country?

I'd say all over the country. I believe that they started down here from Wisconsin and if I can think of his name, which I can't, he worked as a shop foreman, went to Oakridge as a mechanic shop foreman and they say he was an FBI man.

In other words, he was sent to work there just to make sure there was no . . .

Well, I don't know. I guess that was it. Then we had Vern, he was awful dirty looking and so forth, (Kidney?) Wagner, you ever hear tell of him?

Uh-huh, no.

He disappeared, we called him the old shade tree mechanic, he worked out there under a darn shade tree. I don't know how much of the work he done, he never did work in the shop with us, and he was the one that they had arrest (Kidney?) Wagner over here in Virginia sometime while he was down there.

Okay, who was (Kidney?) Wagner?

He shot up the place down there in old Kingsport and I think one or two people was shot. He was a desperado, I guess.

He didn't shoot up any place in Holston then?

No.

This was in Kingsport itself?

Yeah, way before Holston come down there. Then he got out of the prison and he come back here, I think to see some of his people. And they tracked him down over in Virginia.

Do you remember anything about the guy, I can't think of the guy's first name, but his last name was Slack and he was arrested in 1950 for espionage over here at Holston? Apparently, he pirated out some samples of RDX and sold it to a Soviet spy.

I heard about it, but now, that's about all I knew about it.

I don't think he worked at Holston very long, but I think he came from Rochester, New York, or something like that?

New York, ah-huh.

I forgot now how they broke the case, but I think he was arrested in like 1950.

Yeah.

What was the reaction in town to that? Was that a surprise?

I never heard anyone say anything, the only thing I knew about it was in the paper. And wasn't there a couple more in New York that was connected with that?

There could be, that's all I heard, but that doesn't mean there weren't more.

Well, didn't they electrocute one or two?

He was not, I think that they sentenced him, he either got 10 or 15 years in prison for what he did. But, of course, Julius and Ethel Rosenberg, and I think somehow, there was some connection. Because I think the way they found out about Slack was the same way they found out about Julius and Ethel Rosenberg. But they were up at Fort Monmouth, and I think the information they got was from Los Alamos was about the atomic stuff and they were executed. But I think, the others involved were not, primarily because the others confessed and I think that Julius and Ethel didn't do it, so that's all I know about that one. That's all the questions I've got to ask right off the bat, unless you want to add anything else.

I don't know of a thing.

Well, thanks again and I'll go ahead and turn this off. A note here that the name of the garage is Creech's Garage. C-R-E-E-C-H on Center Street.

(End of Tape)

APPENDIX A
RELEASE FORMS

CONSENT FORM FOR USE OF INTERVIEW

Interviewee

Name: HENRY W. COLLINS
Address: 1585 FORT HENRY DR UNIT 5GT
Kingsport, TN 37664
Phone: 615-246-4814

I am providing this information voluntarily. I understand that I will receive a copy of the transcript of this taped interview and copies of the draft and final reports for this project. Upon request, Geo-Marine, Inc., will provide me with copies of notes taken during this interview and of the tape made during this interview.

I also understand that tapes and transcripts of this interview will be archived at Geo-Marine and will be available for research purposes to qualified persons unless otherwise specified below. Copies of the tapes and transcripts will be kept by Geo-Marine, Inc., 550 East 15th Street, Plano, Texas 75074, for their use in preparing project reports.

Restrictions:

☒ No Restriction
☐ Restrictions (specify):

Date 9/26/95 Interviewee(s) Henry W. Collins
Signature(s) _____

Date 26 Sept. 95 Interviewer MT Swanson
Signature _____

CONSENT FORM FOR USE OF INTERVIEW

Interviewee

Name: Raleigh S. Dingels ^{il} np
Address: 328 Meadow Lane
Kingsport, TN 37663
Phone: (423) 239-6572

I am providing this information voluntarily. I understand that I will receive a copy of the transcript of this taped interview and copies of the draft and final reports for this project. Upon request, Geo-Marine, Inc., will provide me with copies of notes taken during this interview and of the tape made during this interview.

I also understand that tapes and transcripts of this interview will be archived at Geo-Marine Inc. and will be available for research purposes to qualified persons unless otherwise specified below. Copies of the tapes and transcripts will be kept by Geo-Marine, Inc., 550 East 15th Street, Plano, Texas 75074, for their use in preparing project reports.

Restrictions:

☒ No Restriction
☐ Restrictions (specify):

Date 23 Sept. 95

Interviewee(s) Raleigh S. Dingels
Signature(s) _____

Date 23 Sept. 95

Interviewer Matt Swanson
Signature _____

CONSENT FORM FOR USE OF INTERVIEW

Interviewee

Name: Raymond B Herring
Address: 242 A Willowbend Dr.
Kingsport, TN 37660
Phone: (423) 246-5908

I am providing this information voluntarily. I understand that I will receive a copy of the transcript of this taped interview and copies of the draft and final reports for this project. Upon request, Geo-Marine, Inc., will provide me with copies of notes taken during this interview and of the tape made during this interview.

I also understand that tapes and transcripts of this interview will be archived at Geo-Marine, Inc. and will be available for research purposes to qualified persons unless otherwise specified below. Copies of the tapes and transcripts will be kept by Geo-Marine, Inc., 550 East 15th Street, Plano, Texas 75074, for their use in preparing project reports.

Restrictions:

☒ No Restriction
☐ Restrictions (specify):

Date Aug 27 Interviewee(s) R. B. Herring
1995 Signature(s) _____

Date 27 Sept 95 Interviewer Mark T. Swanson
Signature _____

CONSENT FORM FOR USE OF INTERVIEW

Interviewee

Name: MELVIN E. JOHNSON
Address: 100 NETHERLAND LN, Bx 1
KINGSBART, TN 37660
Phone: (423) 246-7874

I am providing this information voluntarily. I understand that I will receive a copy of the transcript of this taped interview and copies of the draft and final reports for this project. Upon request, Geo-Marine, Inc., will provide me with copies of notes taken during this interview and of the tape made during this interview.

I also understand that tapes and transcripts of this interview will be archived at Geo-Marine, Inc. and will be available for research purposes to qualified persons unless otherwise specified below. Copies of the tapes and transcripts will be kept by Geo-Marine, Inc., 550 East 15th Street, Plano, Texas 75074, for their use in preparing project reports.

Restrictions:

☒ No Restriction
☐ Restrictions (specify):

Date 9/27/95 Interviewee(s) Melvin E. Johnson
Signature(s) _____

Date 27 Sept 95 Interviewer Melvin E. Johnson
Signature _____

CONSENT FORM FOR USE OF INTERVIEW

Interviewee

Name: _____

Address: _____

Phone: _____

Daniel H. Stauffer Sr
2000 Duane Rd Kingsport, TN 37660
247-5469

I am providing this information voluntarily. I understand that I will receive a copy of the transcript of this taped interview and copies of the draft and final reports for this project. Upon request, Geo-Marine, Inc., will provide me with copies of notes taken during this interview and of the tape made during this interview.

I also understand that tapes and transcripts of this interview will be archived at Geo-Marine and will be available for research purposes to qualified persons unless otherwise specified below. Copies of the tapes and transcripts will be kept by Geo-Marine, Inc., 550 East 15th Street, Plano, Texas 75074, for their use in preparing project reports.

Restrictions:

☒ No Restriction
☐ Restrictions (specify):

Date 25 Sept. 95

Interviewee(s)
Signature(s) _____

Daniel H. Stauffer Sr

Date 25 Sept. 95

Interviewer
Signature _____

MT Swanson